

**THE
RAILWAY GAZETTE**

A Journal of Management, Engineering and Operation
INCORPORATING

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We would remind our readers that there are many overseas countries to which it is not permissible for private individuals to send printed journals and newspapers. THE RAILWAY GAZETTE possesses the necessary permit and machinery for such dispatch, and any reader desirous of arranging for copies to be delivered to an agent or correspondent overseas should place the order with us together with the necessary delivery instructions.

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TO CALLERS AND TELEPHONERS

Until further notice our office hours are:—

Mondays to Fridays - 9.30 a.m. till 5.0 p.m.

The office will be closed on Saturdays.

A Minister's Dreams

THE present Minister of Transport has achieved a reputation for his entertaining speeches; his humorous phrases have been welcome additional fare of many a wartime repast of rationed foods. Sometimes, however, the brilliance of the wit may be dimmed by reason of the less keen perception of the listener. When Lt.-Colonel J. T. C. Moore-Brabazon addressed a luncheon party given by the National Defence Public Interest Committee on April 9 he spoke of his hopes that this year would see a Great Western train running to Scotland, and perhaps the Coronation Scot surprising the people of Plymouth; he seemed to envisage this as part of his task as grand co-ordinator of traffic. The people of Plymouth may think that they have had a sufficiency of surprises recently and might regard the advent of the Coronation Scot as merely a pleasant and interesting diversion. Great Western coaching stock north of the Tweed is already too familiar to arouse surprise. Ministers of Transport are, to use the phrase of the present holder of the office, "so transitory" that Lt.-Colonel Moore-Brabazon may perhaps be excused if he is unaware that before the war there were several regular services between points on the G.W.R. and important towns in Scotland. In conjunction with the L.N.E.R., the G.W.R. maintained regular services between Penzance and Aberdeen, and with the L.M.S.R. between Plymouth and Glasgow; there was also a winter service between Plymouth and Edinburgh. Another route in which G.W.R. rolling stock was used linked Southampton with Edinburgh and Glasgow. A list of services of this kind, compiled by the G.W.R., is given at page 463. Whether the public interest would be served better by running G.W.R. trains from Cardiff to Wick than by concentrating on efficient performance between more usual points seems open to question.

* * *

The Future of Railways

Railways and their future have formed a favourite theme for theorists for a good many years, but since the outbreak of the present war the spate of reformatory plans seems to have increased and at the same time to have become, if possible, even more irresponsible. Apart from those who, by reason of their calling or experience, may be deemed at least to have some knowledge of the problems they so willingly and loquaciously set out to solve, there are others who, unbridled by practical familiarity with the task, are still eager to produce panaceas on paper not only for real but for imaginary ailments of the transport body. Into the latter category falls the effort of "a student of railway finance" whose unwittingly humorous contribution appeared at great length in *The Financial Times* of March 7. The student would appear to have carried on his studies very superficially; in any event he seems to have compressed within his survey a high percentage of the more common fallacies relating to railway finance. Fortunately a reasoned reply was soon forthcoming by an unspecified "acknowledged authority on railway affairs," and was printed by *The Financial Times* two days later. In these times it is difficult to understand the allocation of space to so poor a piece of propaganda as the first article, and it can only be regretted that its appearance should have made necessary the diversion of the time and energy of a more responsible person in an endeavour to remove a mass of fallacies.

* * *

Concentrated Industry and Trade Marks

Under the Government's plans for the concentration of industry, whereby trades which are working at less than capacity are to pool their output in a minimum number of factories, one of the most important problems which will arise relates to trademarks and patents. There will be a number of cases, no doubt, in which a closed down firm will not be willing to give up these to its competitors who are operating the nucleus works. The Board of Trade view is that in this event the most obvious commercial arrangement would be for it to have made a special line of goods, perhaps sold under a special trademark, for the duration of the war. The disadvantages of this will be sufficiently obvious to the many who, by great expenditure of initiative, research, and money, have evolved special lines of goods and have

built up valuable goodwill in named products. Unless great care is taken, loss of goodwill, both in the home market and abroad, may become a major industrial casualty of the war. Some manufacturers who are unable to keep up the supply of their products to the public are taking active measures to keep their names before potential markets, and to apprise their customers of the part they are playing in the war. In this way their prestige is enhanced and their goodwill is maintained. With every month that the war is prolonged the need for action of this sort is increased, for the public memory is notoriously short, and the danger of having to start the peace with the necessity for starting afresh to rebuild goodwill is too real to be ignored.

* * *

Overseas Railway Traffics

Buenos Ayres & Pacific Railway traffics during the 39th and 40th weeks of the current year have had the satisfactory result of changing an aggregate decrease of 152,000 pesos into an aggregate increase of 354,000 pesos. A welcome advance of 625,000 pesos is shown in the returns of the Buenos Ayres Great Southern for the two weeks, following a slight improvement in the previous fortnight. The Central Argentine increase in the two weeks is as much as 927,450 pesos, being added to the gain of 480,900 pesos in the previous fortnight. Buenos Ayres Western receipts are up 239,000 pesos in the two weeks under review. Central Uruguay traffics in sterling are £44,102 higher to date, but are down \$135,861 in currency.

	No. of Weeks	Weekly Traffics	Inc. or Decrease	Aggregate Traffic	Increase or Decrease
Buenos Ayres & Pacific*	40th	1,938	+	276	55,967 + 354
Buenos Ayres Great Southern*	40th	2,788	+	317	88,046 + 7,739
Buenos Ayres Western*	40th	996	+	112	30,254 + 1,379
Central Argentine*	40th	2,244	+	469	62,654 + 8,553
				£	£
Canadian Pacific	13th	1,113,800	+	391,800	9,082,400 + 1,954,800
Bombay, Baroda & Central India	52nd	381,225	+	96,900	10,430,925 + 1,243,800

* Traffic returns in thousands of pesos.

Thus the Bombay, Baroda & Central India completes its financial year with a sterling increase of £1,243,800, and in currency with an advance of Rs. 1,65,84,000. The dollar increase of the Canadian Pacific for the first quarter of the year is \$9,774,000.

* * *

Bengal & North Western Railway

This company works 2,088 miles of metre-gauge line, of which 1,305 miles are owned by it and 783 miles by the State, including the Tirhut State Railway. Gross earnings in the year ended September 30, 1940, showed an increase of Rs. 34,11,088 in comparison with 1938-39 and working expenses a decrease of Rs. 5,67,450, giving an operating ratio of 44.46 per cent., against 50.19 per cent. Under goods traffic the largest increase was from sugar cane and its products. Both coaching and goods receipts were enhanced by supplementary charges imposed by the Government of India with effect from March 1, 1940. The decrease in working expenses was mainly in carriage and wagon expenses, which compare with a substantial outlay on goods wagon renewals in the previous year.

	1938-39	1939-40
	Rs.	Rs.
Coaching receipts	1,53,98,820	1,66,63,094
Goods traffic receipts	1,98,08,558	2,19,34,965
Total earnings	3,63,61,591	3,97,72,679
Working expenses	1,82,48,662	1,76,81,212
Net earnings	1,81,12,929	2,20,91,467

The company's share of net earnings was Rs. 1,23,75,949, against Rs. 1,00,39,237, and this realised £928,196, compared with £752,943. Stockholders again receive a total distribution of 16 per cent.

* * *

Rohilkund & Kumaon Railway

A general improvement in earnings, offset to a very small extent by a rise in working expenses, is shown by this company's report for the year ended September 30, 1940. All classes of coaching traffic showed increases, the largest being under third class. In goods traffic the increase was chiefly due to the good sugar cane crop and the consequent larger despatches of cane and its products. The operating ratio of 43.95 per cent. compares with 53.86 per cent. for the pre-

vious year. Of the net earnings, Rs. 21,52,862 were attributable to the company's own lines of 259 miles and Rs. 28,17,230 to the Lucknow-Bareilly State Railway of 311 miles which the company works.

	1938-39	1939-40
	Rs.	Rs.
Coaching receipts	28,59,820	34,06,687
Goods traffic receipts	39,76,265	50,89,672
Total earnings	71,93,574	88,66,442
Working expenses	38,74,695	38,96,350
Net earnings	33,18,879	49,70,092

In sterling the company secured £161,464 (against £108,574) from its own line and £16,482 (against £7,902) as its share of surplus profits of the Lucknow-Bareilly line. Stockholders again receive a dividend and bonus amounting to 16 per cent.

* * *

Signalling in Italy

In no Continental country does the signalling so much resemble British arrangements as in Italy, at least as far as the actual appearance of the signals is concerned. As shown in the article on page 451 in this issue, the earliest equipment was obtained from this country and an English design of block apparatus was long favoured, its principal features being incorporated in later mechanism designed in Italy. A peculiarity, still preserved, was the mounting of distant and stop arms one behind the other, said to have been adopted to bring signals low down and readily visible when coming out of the numerous tunnels with which that country abounds. The large amount of work put into the development of hydraulic power signalling is creditable to Bianchi and his co-workers, and in the last twenty years much thought has been given to the gradual standardisation of all signalling apparatus and the designing of circuits for electric power working answering to the highest requirements of modern high-speed traffic and electrification. With the transfer of certain Austrian lines after the last war, double-wire working began to attract more attention, it having been seen up to then only on a small scale on the line connecting with Switzerland *via* the Simplon. Italian designs of equipment were worked out and have since been applied fairly extensively on some routes. A good three-indication type of inductive A.T.C. is also in use, to cover the use of splitting distant signals at junctions.

* * *

Tractive Effort and the Boiler

Once, during a discussion on the relative capacities of different types of locomotives for certain work, a railway chief mechanical engineer who was taking part remarked that he "didn't bother too much about a few pounds of tractive effort, more or less, so long as the boiler was a good one." There is a great deal of common sense in the contention, for tractive effort figures are easily affected by considerations which do not determine the efficacy of the boiler as a steam generator. A few inches in the size of the coupled wheels, or some slight variation in the cylinder diameter or the stroke of the pistons, are reflected in the figures relating to tractive force, and it is only when the steam pressure carried by the boiler is brought into the calculation that the influence of the latter is felt. The foundation of any locomotive design is in reality the boiler, for upon its performance the success or otherwise of the engine largely depends. The importance of well planned cylinders and ports and an efficient valve motion can hardly be over-stressed, and the arrangement of the front end ranks with them in this respect, but, when all has been said, it is the boiler that provides the basic measure of efficiency.

* * *

After the War

At times we get the impression from reading the papers that we are not really engaged in a war with hostile foreign powers whom it is our intention to defeat, but in some obscure manner taking advantage of certain skirmishings abroad to stage a social revolution at home. It is assumed, on what authority we do not know, that the thousands of persons uprooted from home and employment are sustained and inspired by the idea that they are training to fight for a new

Britain. Meanwhile certain enthusiasts attempt to anticipate the new order we are promised. Turning our heads recently to survey the pretty porter whose cry of "hurry along, please!" tinkled musically through the Underground station, we saw the lady was wearing a fur coat over her uniform. Mere possession of a fur coat has long been a popular dream, so that to be so flush with these articles that one can be spared for use as an overall must seem to many influential persons an indispensable ingredient of the earthly Paradise for which our course is set. We hope that those who are planning the future will take note of this and be circumspect in their promises, for their own sakes as well as ours.

* * *

A Logical Basis for Road and Rail

ALTHOUGH wartime conditions have tended to thrust into the background certain aspects of the rail and road transport problem in Great Britain, which had culminated in the "square deal" campaign in the days before the development of the war crisis, it is obvious that the present and future positions are being borne in mind by numbers of persons, both official and private, with a view to evolving a solution which may be adopted in the post-war reconstruction period. Brigadier-General Sir H. Osborne Mance dealt with the matter in his book "The Road and Rail Transport Problem," which we reviewed at length in THE RAILWAY GAZETTE of May 3, 1940. This volume surveyed the whole problem and included a commentary on the position immediately before the outbreak of war. General Mance has since returned to the subject in a paper presented to the Institute of Transport on March 10 and has suggested a line of approach to the solution of the problem. Mr. George Mills, the Scottish Divisional General Manager of the L.N.E.R., has also tackled the problem within the last few weeks, in the course of a Keith lecture delivered to the Royal Scottish Society of Arts. Both these papers have been noticed in our columns and it is significant that, in each case, these experienced and thoughtful writers have indicated the "C" licence holder as the crux of the problem. The Minister of Transport has stated that the chief problem in making a war plan for goods transport by road was provided by the large number of independent units of which the industry was comprised. Immediately before the war there were nearly half a million vehicles in the hands of 220,000 operators. The "A" and "B" licence holders, who constitute the haulage industry, numbered some 60,000, and between them owned some 150,000 vehicles. The large balance was in the hands of "C" licence holders, whose licences permit them to convey their own goods in their own vehicles. There can be no doubt that the existence of "C" licences means that the cost of this type of conveyance will regulate road and rail rates and, moreover, that it introduces a factor which is largely independent of the cost of services rendered. In 1938 there were 178,000 "C" licences in operation and, in normal circumstances, there is no legal limit to their expansion. To the "C" licence holder, transport is merely ancillary to his main business and may be regarded in somewhat the same light as collection and delivery services in relation to the main-line railways.

So far as concerns present-day circumstances, there has been a widespread impression that the Ministry of Transport desired to take advantage of war conditions to cripple road transport for the benefit of the railways but the present Minister, who can scarcely be accused of anti-road views, has denied this categorically and stated that fuel rationing resulted from the very elaborate survey by the Committee of Imperial Defence of the demands of the fighting services for transport. It was obvious that, at the beginning of the war, the Ministry of Transport could not hope to set up an organisation which would control in detail the work of an industry comprising such large numbers of individual operators, and, to a large extent, the control exercised has been through the medium of the fuel rationing scheme. Undoubtedly the war will have a profound effect on rail and road co-ordination, and whether or not that effect is for the ultimate good may depend very largely upon the amount of clear thinking

which is devoted to the subject in advance. Assuming a return to pre-war conditions with their tendency for supply to exceed demand, obviously, the primary course is to define the objective clearly and then to seek the best method of achieving it. If it is desired to prevent competition between the different forms of transport, the obvious division of function is to assign long distance movement to the railways and short distance transport to the road, thus confining ancillary transport (the "C" licence) to a comparatively short distance from its base. Such a scheme, obviously, would hamper the freedom of choice of the consignor. Another objective might be to permit the continuance of competition between the two forms of transport and to place them on an approximately equal basis by so fixing rates as to make other considerations, such as speed and convenience, the elements of choice.

In either case there is presumably the necessity to establish some effective over-riding control over road transport, unless a monopoly of all transport be accorded to one national organisation, and the ancillary user be deprived of the right of delivering his own goods or, at any rate, that right be limited very drastically. It is unlikely that any scheme of transport nationalisation would be pursued to the extent of preventing the ordinary trader from delivering his own goods, and inconceivable that the traveller should be precluded from using his own car. How best to achieve this broad control of transport is therefore the first consideration. As long ago as August 19, 1932 (at the time the Salter Report was presented), we published in THE RAILWAY GAZETTE some suggestions for a logical basis for road and rail, and the intervening years have produced nothing to weaken the arguments then advanced. We then pointed out that before the railway era the turnpike roads and canals were the only arteries for inland transport and that the user paid for their upkeep by means of tolls. With the coming of the railway through traffic passed from the road to the rail, and as long-distance road users had virtually ceased to exist, it was considered logical that the construction and maintenance of roads should become a matter for the local authorities, and be charged to the local rates, as the benefit conferred by the road was entirely local. Now that the roads have regained the position they formerly occupied, and have become the "permanent way" of a system of through transport rivaling the privately-owned railways, the question arises whether the former method of financing road construction and maintenance should not be reintroduced. Incidentally many road transport interests contend that licence fees and fuel taxes together amount to more than the full cost of road maintenance and regulation, so that a change in the method of collecting these payments would be unlikely to inflict injustice on road users as a whole. Since the publication of our suggestions in 1932 one great change has taken place in that the Government has accepted responsibility for trunk roads and thus has laid the basis of a national road system independent of local rates.

Nearly ten years ago our suggestions took the form of advocating the formation of a Public Roads Authority, somewhat similar in constitution to the Port of London Authority, to purchase, maintain, control, signal, and light the public roads in Great Britain, and to derive its income from tolls collected at toll gates arranged approximately at a radius of ten miles from the centre of a toll area. Fuel tax and licence costs could be reduced and become entirely revenue taxes, and the payment of the road user for his permanent way and signalling would be collected at the toll gates. A further suggestion we made was that a petrol filling station should be constructed at every toll gate in replacement of the numerous small filling stations throughout the country, after compensation had been paid to the owners of the existing filling stations, and we added, "in fact, filling stations might well be made a monopoly of the Public Roads Authority." In this connection it is interesting to recall that Germany afterwards adopted for its *Reichsautobahnen* such a system of granting a monopoly to the German Motor Roads Company (a close affiliate of the Reichsbahn) for petrol-filling stations on the German motor roads. No tolls, however, are charged for the use of these roads and the profits on petrol-filling stations are said to have been suffi-

cient so far to meet the cost of maintaining the roads; the capital costs of construction are of course a matter for State loans, and it was hoped that interest charges would also be met by the profits of the petrol-filling and service stations. In Italy the *autostrade* are toll roads, but the system was not extended to the ordinary main road system of the country. It is unlikely, we think, that the Government would assume responsibility for all the roads of Great Britain, as many of them still serve primarily local needs, but we are strongly of opinion that the question of re-introducing toll gates on main roads is worthy of greater consideration than has yet been accorded it. Such a system would make possible greater flexibility of control of road transport than is at present possible and would facilitate differentiation between one class of traffic and another (if such were desired) in a way which is not easy with the present rather confused method of mixing revenue contributions with road payments.

Vickers-Armstrongs Maiden Dividend

THE balance-sheets of Vickers Limited and the main operating companies of the group reflect the further large expansion in activity in 1940 resulting from the war, and again give an impression of very conservative finance. Trading profits of Vickers-Armstrongs Limited, the chief subsidiary, are shown after providing for taxation, and at £1,963,527 are £185,384 above the corresponding figure for 1939. The allowance for depreciation is increased from £750,000 to £1,000,000, and consequently, net profits work out at £963,527, a decline of £64,616. Last year, it may be recalled, dividend arrears on the preference shares were finally cleared, and a dividend of 7 per cent., tax free, is now to be paid on the ordinary shares—the first distribution on this class of capital since the company was formed in 1927 to acquire the armament and main shipbuilding interests of Vickers Limited. Stocks and work-in-progress record substantial expansion from £32,623,461 to £46,382,267, while debtors and payments in advance are higher at £9,342,655, compared with £6,705,166. Creditors, including provision for tax and contingencies, are £7,430,031 higher at £19,032,644. Cash has risen by £1,435,327 to £1,648,372, and the balance sheet total is £73,509,345, compared with £56,022,161 at the end of 1939. Results in the past six years compare:

	Trading profits	Net profits	Prof. divs.	Ord. div.	Carry fwd.
	£	£	£	£	£
1935 ...	1,130,756	609,374	606,680	—	107,307
1936 ...	1,465,746	768,267	759,684	—	115,891
1937 ...	1,965,550	867,540	863,171	—	120,260
1938 ...	1,679,795†	1,104,795	1,096,191	—	128,863
1939 ...	1,778,143†	1,028,143	994,168	—	162,838
1940 ...	1,963,527†	963,527	366,268	550,509*	209,588

* 7 per cent. tax free

† After taxes

Trading profits of Vickers Limited, which are struck after provision for taxation, and include dividends from subsidiaries and investment income amount to £1,188,651, which compares with £1,260,711 for 1939, but no doubt taxes have absorbed a substantially large sum on this occasion. Net profits at £1,119,120 are also moderately lower, as was shown by the preliminary statement. The dividend is again limited to 10 per cent., while contingencies reserve received a further £250,000 and the balance forward is raised by £171,633. As usual, the accounts show a strong and liquid position (of the floating assets of £11,334,717, as much as £6,404,364 is represented by cash and Government securities) and the company is, of course, well placed to provide any additional finance required by the subsidiaries in the important part they are playing in the war effort. Amounts advanced by Vickers to Vickers-Armstrongs are substantially higher, having risen on the year from £2,647,406 to £3,997,123. Comparative figures of Vickers results are appended:

	Net profits	Prof. divs.	Ordinary dividend	To reserve	Carry fwd.
	£	£	%	£	£
1935 ...	928,105	418,190	8*	254,520	241,608
1936 ...	1,162,610	418,190	10	469,528	266,500
1937 ...	1,351,056	418,190	10	461,831	237,534
1938 ...	1,398,853	418,190	10	446,436	321,760
1939 ...	1,192,041	418,190	10	400,253	480,188
1940 ...	1,119,120	343,416	10	354,070	651,821

* Also 50 per cent. capital bonus

LETTERS TO THE EDITOR

(The Editor is not responsible for the opinions of correspondents.)

Thoughts on a Curve Derailment

8, Comiston Rise,
Edinburgh, 10
April 7

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—I am unable to resist the temptation, offered by the article on this subject, which appears in your issue of April 4, to return to the question of curve derailment. The provocation consists in the apparent assumption by the author or compiler of the "Thoughts" that, apart, one may suppose, from track failure, curve derailment necessarily occurs by virtue, or should I say by vice, of overturning. Consequently he poses the question why, in the case under discussion, derailment took place at 59 m.p.h. when the calculated overturning speed was 78 m.p.h. Many years ago, something over 30 in fact, it was suggested that the expression $11\sqrt{R}$, R being the radius in chains, represented a practicable maximum speed for application to any curve. This was not arrived at by reference to overturning but to the lateral forces set up between the outer flanges and the rail, causing the change in direction of motion of the train. The more abruptly such a change takes place, the greater, naturally, becomes the force until a point is reached when the outer flange rides over the rail, after, and not before, which capsizing may, of course, take place. It is, however, well known that on curves in a relatively high state of maintenance, speeds up to about $13\sqrt{R}$ are not uncommon and produce no ill effect. Applying this to the American case we arrive at a speed of 45 m.p.h. which is, incidentally, the restriction which had been imposed by the American engineers. This speed was exceeded by the derailed train at 14 m.p.h. or in other words by travelling at a speed of $17\sqrt{R}$. A further interesting point is that a cant of 8 in. had been adopted which is higher than customary British practice. Such a cant, by reducing the downward force resisting the tendency of the wheel to climb, may very well have lowered, rather than raised, the critical speed. There is little consolation in the reflection that the overturning speed has been raised to 78 m.p.h. if, by the same token, the wheel climbing speed has been reduced to 50 m.p.h. One can avoid the risk of death from drowning by jumping over a precipice but it does not offer the best prospect of surviving both eventualities. So far as a single instance can go, this case affords striking support for the limitations, both in respect of cant and speed, which are customary in British Railway practice.

Yours faithfully,
REGINALD PETERS

[Mr. Peters is incorrect in supposing that the assumption to which he refers near the beginning of his letter was made. Nevertheless, what he says is supplementary to our article and adds to its value.—ED., R.G.]

New Railway Network Principles

Meece House,
Coldmeece,
Nr. Stone, Staffs
April 3

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—In your issue of March 21, Mr. Charlewood discusses the Birmingham and Nottingham hour section of my scheme. Very well; each individual hour section has its own points. Of this one the *Nottingham Guardian* of November 29, 1940, says "An hourly express train service between Nottingham and Birmingham in 52 minutes, running time, is an alluring proposition to all Nottinghamshire and Lincolnshire." As proposed, the route (53 miles long) would utilise successively the Sutton Coldfield line through Lichfield (duly rectified for high speed), the main line through Burton-on-Trent, a new connection Willington to Trent and so to Nottingham, the line to be clear of speed restrictions throughout.

Now Mr. Charlewood observes that the main-line portion

is well occupied already. In my booklet I do talk about clearing the line by way of flying junctions to compensate for superadding the hour-section services, but Mr. Charlewood thinks a distinct track for them would make a cleaner job, and he may be very right. The hour-section services must operate with high regularity, the main lines must preserve the capacity to deal with rush traffic, and in a scheme to "allure" traffic to the railways it is elementary to allow adequate accommodation.

Now going from Lichfield towards Nottingham the line falls about 100 ft. in a couple of miles. Taking advantage of this the hour express might make a brief halt at Lichfield to pick up a coach from Walsall and Wolverhampton, say, and thereafter quickly regain high speed down the grade. In the reverse direction the coach might be slipped.

The hourly stopping service would be rather local in interest between Burton-on-Trent and Birmingham (in view of the main-line timings between those towns), but between Burton and Nottingham it would provide a useful direct connection within an hour and might be used to serve Burton with through London coaches *via* Trent.

Yours faithfully,

J. F. POWNALL

Coal Transport

Golders Green Road,
London, N.W.

April 6

TO THE EDITOR OF THE RAILWAY GAZETTE

Sir,—The select committee's recommendations dealing with co-operation between coal merchants appear to contain weaknesses preventing the greatest flexibility and simplification of operation being realised. For instance: (a) Greater difficulty of estimating individual customer's needs and the trend thereof compared with those of a town or district as a whole. (b) Unpredictable time between placing orders with collieries and delivery. (c) Difficulty of rapidly altering allocation of orders among pits necessitated by damage or changed conditions. (d) Delivery in trainloads may enhance unloading delays and congestion, especially should independent orders coincide in arrival. (e) Neither transport nor merchant's operations simplified to any great degree.

It is suggested that the following procedure may prove beneficial for any large town or district: (1) Number of grades to be strictly limited except where special industrial requirements have to be met. (2) Quotas, preferably quarterly, to be given selected pits for delivery at a specified rate, consigned to the district in train loads with grade shown by number on wagons. Collieries would thus be better able to plan their output and secure regular and efficient working, whilst control of sources of supply would be facilitated. (3) Merchants to send their orders to a central office in each district, which would fill these from the first available supplies, any surplus to be stored. Relations between a merchant and his customers would remain unaltered, while he would be in a position to handle unexpected demands with the minimum delay. (4) Such central offices to be operated by the railways in conjunction with their existing train control systems, this being essential to ensure rapid clearance of trains on arrival. Shunting and the holding back of wagons under load would be much reduced and full benefit obtained from the pooling of wagons.

Little relief can be afforded to loaded traffic by any form of pooling so long as each wagon has a named consignee, and such relief is vital, as it would appear in certain cases that it is not line capacity so much as the disposal of trains at terminal points which sets a limit to the traffic passing, provided the control staffs make full use of available facilities.

It is to be understood that all consumers would be embraced by these proposals, except such as have running contracts with pits and can accept full train loads. Should any long-term proposals come under consideration it is probable that a review of the handling of landsale coal in north-east England would show features of interest.

Yours faithfully,

H. BELL

THE SCRAP HEAP

RAILWAYMEN WERE SO POLITE
TO HIM

Whenever Mr. Isaac Poad, of Derwent Road, York, travelled by rail he was impressed by the courtesy shown him by railwaymen. He died last November, leaving £26,082, and in his will, published today he gave £100 to the N.U.R. Orphans' Fund "in appreciation of the great courtesy extended to me by the servants of the railway companies."—From "The Evening News."

STRANGER IN TRAIN GIVES £50 EACH
TO EIGHT MEN IN FORCES

Eight members of the Forces travelling north by train today got an "Easter egg" gift of £50 that was unexpected. Four of the men are in the R.A.F. and the other four in the Army.

They were astonished when a fellow passenger, Mr. Lewis Walcott, a retired London stockbroker, handed to each of them a sealed envelope with instructions not to open them until he had left the train. After he had left the compartment they opened the envelopes and found in each the sum of £50 in notes. The donor had by this time gone to another part of the train. When asked what had prompted his gift he said it was an Easter thank-offering for the escape of himself and his family in the last raid on Coventry. "It was a small

recognition of what the boys in khaki were doing."

Asked why he had not given the money to one of the war charities Mr. Walcott explained that he was a believer in personal contact, as one then knew that the money had not gone through the wrong channels.—From "The Evening Standard."

"RAILWAYMAN" REPLIES TO
"INDUSTRIALIST"

In our April 11 issue we published a number of extracts from the article by "An Industrialist" in *The Sunday Times* for April 6. Its following issue contained a reply from "A Railwayman" of which we quote the following extracts:—

One wonders whether in referring to road-carrying services the proposal really means what it says, or whether it stops short of the delivery of milk and other foodstuffs, and whether it embraces taxicab services as well as buses and trams. Canals and coastwise transport are not mentioned, although they are deeply involved.

The writer of the article proceeds to say that the railwayman "approaches transport problems from a standpoint long fixed."

One would have thought that the railways' endeavour to adjust themselves to changing conditions for the last

one hundred years was well known. Their evolution from track-owners to carriers by rail and then to door-to-door carriers by rail and road services, their construction of docks and warehouses for importers and distributing trades, their connecting steamship services to the Continent and Ireland, their restaurant and hotel services, and other pre-amalgamation developments, many attained with difficulty from a reluctant "industrialist" public, were all evidence of real adaptability rather than a "standpoint long fixed."

Their struggles in 1921, 1922, and 1928 to obtain wider road transport powers are mentioned, but the whole purpose was not, as stated, to "safeguard the railways' right," unless by that is meant to remove a restriction on their activities not applied to any limited company or individual in Great Britain.

The suggestion that the law of the common carrier "governs railway outlook" is not clear. Perhaps what is in mind is the obligation to carry practically anything at rates not fixed by the railways and not to pick and choose what suits the railway best.

The closing remarks of your correspondent are welcome. Those engaged in railway work at the present time know well the effect on morale of unfair criticism to which no reply is at present permissible from them.—From "The Sunday Times."

OVERSEAS RAILWAY AFFAIRS

(From our special correspondents)

ARGENTINA

Grain Elevator Construction

As the result of an agreement between the Ministers of Finance and Agriculture, plans are to be put in hand to expedite the construction of up-country elevators. It is proposed to synchronise the services of the up-country elevators with the stocks and capacity of the terminal elevators at Buenos Aires, Quequen, Rosario, Villa Constitución, Ingeniero White, and Santa Fé, which will have a combined capacity of 450,000 tons, with a view to utilising these on a more efficient basis. Work is also to be speeded up on the construction of the proposed terminal elevators at Diamante, Concepción del Uruguay, José F. Uriburu, and Mar del Plata. Not only will the country elevators provide badly-needed storage accommodation for the huge grain surpluses which are being accumulated in the country, but their construction will help to relieve unemployment. The total number of projected up-country elevators is 250, and not less than 50 per cent. of the labour and materials employed must be Argentine.

Revised Grain Estimates

The second estimate of the cereal and linseed harvest for 1940-41, issued by the Ministry of Agriculture, indicates a decrease in production in all classes of crops, as compared with the first forecast. This diminution, shown in the appended table, is officially attributed to the losses caused by the heavy rain and hailstorms during the second fortnight of December, which were accountable for an all-round loss of some 10 per cent. The difference between the first and second estimates relating to the four principal crops is as follows:—

	First estimate Tons	Second estimate Tons	Difference Tons	Per cent.
Wheat	8,000,000	7,505,000	- 495,000	- 6.2
Linseed	2,000,000	1,567,000	- 433,000	- 21.7
Oats	880,000	642,500	- 237,500	- 27.0
Barley	860,000	799,300	- 60,700	- 7.1

International Service to Chile

This service, which during the winter months was reduced to one train a week in each direction—in combination with the C.I.T.A. motorcar service between Mendoza and Punta de Vacas—has been augmented during the summer tourist season to two trains weekly each way. The westbound trains leave Buenos Aires on Tuesdays and Fridays at 11.30 a.m., and the eastbound trains arrive at Buenos Aires at 4 p.m. on Sundays and Thursdays.

"El Cuyano"

This day express between Buenos Aires and Mendoza runs daily in each direction, leaving Buenos Aires at 7.30 a.m. and arriving at Mendoza at 11.05 p.m. The return trains leave

Mendoza at 8 a.m., arriving at Buenos Aires at 11.15 p.m. The train comprises first and second class coaches, a dining, and a Pullman or "siesta" car. The latter car which, as reported in THE RAILWAY GAZETTE of September 27, 1940, was put into service on trial during the winter months, is attached three times a week to El Cuyano, alternating with the Pullman car. The service between Mendoza and San Juan is maintained by connecting diesel railcars.

CHILE

Proposed New Railways

The six new railways approved by Congress in Law No. 6,766 of November 27 last, are the following: Osorno-Lake Rupanco, 120 km.; Lance, on the Central railway, along the shores of Lake Panguipulli, 50 km.; Curacautin-Longuimay, 70 km.; the Collipuli extension towards the forestal reserves; the extension of the Freire-Cunce line; and the Peralillo extension to the Nilahus valley. New lines which are now in course of construction under the 1939 programme are: the Crucero-puyehue, 37 km.; Freire-Tolten, 70 km.; the Longotoma spur (a cut-off of the Longitudinal Railway to avoid the operating difficulties on the Cabildo-Illapel section), 75 km.; the extension of the Antofagasta-Salta line; the extension of the Pelequen spur from Las Cabras to El Manzano, 19 km.; the Peleco-Puren line; and that from Corte Alto to Maullin.

CANADA

Improved Montreal-Halifax Service

Faster time between Montreal and Halifax with the establishment of the Ocean Limited as an all-sleeping-car passenger train, and the addition of a new fast train, the Scotian, making three trains in daily operation between the two cities, were announced on March 7 by C. W. Johnston, General Passenger Traffic Manager of the Canadian National Railways.

The increase in train capacity and the speeding up are in response to the growing volume of passenger and express traffic between the terminal points and the important cities between Montreal and Halifax, which has been occasioned by Canada's war effort. Demand on existing train space has become heavy and for a considerable time it has been necessary to operate the Ocean Limited in extra sections.

By the fast schedule which will come into effect in the middle of March the Ocean Limited in its new form as an all-sleeping-car train with complete air-conditioned equipment, 50 min. will be clipped from the running time between Montreal and Halifax. Westbound from Halifax to Montreal the improved

edition of the Ocean Limited will cut off 1 hr. and 20 min. from the present schedule.

UNITED STATES

Southern Pacific Signalling to be Revised

Many United States railways are having to revise their signalling arrangements to meet increasing train speeds and the more exacting regulations now laid down by the Interstate Commerce Commission, to which much of the work done years ago fails to conform. The Southern Pacific Railroad began installing its single track signalling, arranged on the overlap principle [as described in our issue for July 28, 1939, page 131—Ed., R.G.] in 1904, and completed the work 20 years ago.

The intermediate signals, between passing loops, have no distant signals in rear; only the loop home signals, and sometimes the starting signals, have them. The spacing between opposing intermediate signals is at times as short as 2,500 ft. and, although, in the words used by Mr. A. D. McDonald, President of the line, the signalling is considered "entirely adequate and satisfactory," and no case of trains colliding from over-running such signals has occurred, nevertheless the commission has declined to allow the arrangement to stand until general modernisation can be carried out. Extensive re-spacing of signals and provision of distant indications will thus soon have to be undertaken and will be costly, over 4,000 route-miles being involved.

"Wrong-Side" Signalling Failures

Some interesting figures on signal apparatus failures are given in the latest report (year ended June 30, 1940) of the Bureau of Safety of the Interstate Commerce Commission. A list covering 56 railways, shows that there were 37,306 safe-side failures, compared with 38,123 in the previous year, and 276 wrong-side failures, compared with 262. Presumably, all the latter actually resulted in a false signal being shown on the line, as 63 instances of "potential false-proceed" failures are also cited. However, considering that there are 60,000 miles of automatic signals, to mention no other equipment, the total number of signalling operations per annum must be enormous and the number of wrong-side failures relatively very small.

Mostly Due to Defective Equipment

The greatest number of such failures came from apparatus broken, defective, or out of adjustment, and the next largest source of them was sand or rust on rails, in which, for some reason, the Pennsylvania was concerned much more than other lines of comparable importance. [In an editorial note in our issue for June 14, 1940 (page 823), we referred to an arrangement adopted by the P.R.R. to overcome this difficulty at specially troublesome places—Ed., R.G.]

ROAD TRANSPORT SECTION

This section appears at four-weekly intervals

Tilling & British Automobile Traction Limited

THIS undertaking, which is controlled jointly by the British Electric Traction Co. Ltd. and by Thomas Tilling Limited and is a purely holding company, secured in 1940 a fresh high record of revenue amounting to £628,198 compared with £603,065 in 1939. The net profits were £567,836, compared with £488,441, to which was added the balance of £147,460 brought forward, giving a total of £715,302. On the £4,000,000 of ordinary capital the total dividend for the year is 7 per cent. free of tax, against 8 per cent. for 1939. This distribution absorbs £486,956; a transfer of £50,000 is made to general reserve; and £158,346 is carried forward. A sum of £60,000, provided for taxation at December 31, 1939, now no longer required, has been transferred to general reserve which totals £935,970. With the report is published a table, reproduced below, of the company's holdings in a wide range of bus undertakings, most of them railway associated. The railway interest in them, sometimes shared by more than one railway company, in no case exceeds 50 per cent., and in every instance is exactly equal to that of Tilling & British Automobile Traction Limited.

Shares of £1 each	Company
82,721	Aldershot & District Traction Co. Ltd., ordinary
111,400	Birmingham & District Investment Trust Limited, ordinary
37,220	Birmingham & Midland Motor Omnibus Co. Ltd., 8 per cent. cumulative preference
118,294	Caledonian Omnibus Co. Ltd., ordinary
549,428	Crosville Motor Services Limited, ordinary
49,999	Cumberland Motor Services Limited, ordinary
151,356	East Kent Road Car Co. Ltd., ordinary
125,000	East Midland Motor Services Limited, ordinary
149,362	East Yorkshire Motor Services Limited, ordinary
209,372	Eastern Counties Omnibus Co. Ltd., ordinary
213,556	Hants & Dorset Motor Services Limited, ordinary
79,914	Lincolnshire Road Car Co. Ltd., ordinary
263,492	Maldstone & District Motor Services Limited, ordinary
10,725	Motor Coaches Limited, ordinary
373,332	North Western Road Car Co. Ltd., ordinary
530,445	Ribble Motor Services Limited, ordinary
242,793	Southdown Motor Services Limited, ordinary
200	Southern Vectis Omnibus Co. Ltd., 6 per cent. cumulative preference
57,500	Southern Vectis Omnibus Co. Ltd., ordinary
121,701	Thames Valley Traction Co. Ltd., ordinary
225,440	Trent Motor Traction Co. Ltd., ordinary
39,622	United Automobile Services Limited, 7 per cent. cumulative preference
798,412	United Automobile Services Limited, ordinary
391,686	West Yorkshire Road Car Co. Ltd., ordinary
30,724	Wilts & Dorset Motor Services Limited, ordinary
9,322	Yorkshire Traction Co. Ltd., 7 per cent. non-cumulative preference
214,578	Yorkshire Traction Co. Ltd., ordinary

Compared with the year earlier the foregoing figures show no change in the holdings of the company.

The Roads of Italy

THE present total length of the highways of Italy is 204,566 km. (127,112 miles), according to some figures recently compiled by the American Consulate-General in Rome. Of this length 21,456 km. (13,332 miles) are State roads, 46,500 km. (28,894 miles) Provincial, 126,800 km. (78,790 miles) communal, 9,300 km. (5,779 miles) consortial, and 510 km. (317 miles) special motor highways. The State roads, representing the basic network of national highways, are maintained by the Government through the Autonomous State Road Administration. The Government may classify a road as a State road and assume responsibility for maintenance, or declassify a State road and thereby relieve itself of the cost of maintenance. The construction of new roads to be added to the State road network is financed through, and directed and supervised by, the Autonomous State Road Administration. Provincial and communal roads are constructed under the direction of, and maintained by, the respective provincial and communal authorities, but, according to their importance to the State network, the central Government may make a financial contribution or loan for the construction or maintenance. Consortial roads are constructed and maintained directly by industrial interests. The special motor highways are roads constructed, maintained, and operated, for a specified period of time, by private or

semi-public concessionaires. These roads serve the purpose of facilitating fast motor traffic, and the concessionaires are generally granted the privilege of collecting tolls during the period of their concession, after which the maintenance and operation of the road passes to the Government—that is, to the Autonomous State Road Administration.

Road Accidents in Eire

THE returns issued in Eire on February 24 show that during last year 204 persons were killed and 3,929 injured as a result of traffic accidents in that country. These figures are an increase of 12 killed and a decline of 1,060 injured in comparison with the previous year. The number of accidents last year was 7,278 against 10,248 in 1939. The returns show that of the total killed last year 75 were pedal cyclists; 67 were pedestrians, of which 47 were over 14 years of age; 25 were passengers or attendants of mechanically-propelled vehicles, excluding motor cyclists; 12 were drivers; 16 were motor cyclists or passengers; and 2 were drivers or passengers of horse-drawn vehicles. Of those injured the highest number, 1,273, were pedal cyclists; 1,190 were pedestrians; 752 were passengers of mechanically-propelled vehicles; and 379 were drivers of that type of vehicle. The returns are analysed as to the causes of accidents and it is shown that the number of accidents occasioned by pedestrians over 14 years of age was 388, of which 27 resulted in death. Children under 14 caused 43 fatal and 846 non-fatal accidents. Accidents due to defects in vehicles or equipment numbered 14 fatal and 178 non-fatal.

The Cruden Bay Electric Tramway

WHAT was probably the smallest public electric tramway in Scotland has recently been closed by its owner, the London & North Eastern Railway, after an operating existence of over 40 years, during more than 30 of which both passengers and luggage were conveyed. This line, which extended from the Cruden Bay hotel to the railway station, a distance of less than a mile, was opened in June, 1899, by the former Great North of Scotland Railway, for the conveyance of visitors and their luggage and also for the transport of coal and other stores. There was, moreover, a laundry built in connection with the hotel and the traffic to and from this laundry had to be dealt with. As the hotel generated its own electricity it was decided to construct an electric tramway, taking from an overhead copper wire current generated by a 33-unit d.c. combined vertical Belliss & Morcom engine and Parker generator. The line was single track and was built of bull-head rails to the gauge of 3 ft. 6½ in.

The rolling stock, all built at the Kittybrewster works of the Great North of Scotland Railway in 1899, consisted of two electric tramcars, each seating 16 passengers and having an open driver's platform at each end; an open trailer car for the carriage of coal; and two bogie cars for carrying boilers and other heavy articles. The tramcars were built on Peckham 4-wheel Excelsior trucks with a wheelbase of 6 ft. 6 in. and wheels 2 ft. 2 in. in dia. Each was driven by one 15 h.p. motor of ordinary tramcar design and had the usual tramcar controllers, brakes, sand-gear, and headlamps. The bodies were of the clerestory roof type. The passengers were accommodated on Wood's wire seats, trimmed with plush. A speed of approximately 15 m.p.h. was attained on the straight. The open trailer car consisted of a wooden underframe on a 4-wheel bogie, with a wheelbase of 6 ft. 6 in. and 1 ft. 6 in. dia. wheels. It was 11 ft. 6 in. long and had a depth of 9 in. inside. The springing was by means of spiral springs.

The passenger train services were withdrawn on October 31, 1932, from the Ellon—Cruden Bay—Boddam branch

of the London & North Eastern Railway (into which the Great North of Scotland Railway had become merged on grouping), and a direct bus service to Aberdeen was introduced, in association with the L.N.E.R. Thereupon, the Cruden Bay tramway ceased to carry passengers and was

used solely for the transport of laundry and other goods to and from the hotel. Even this work has now been undertaken by road transport and the whole of the tramway and its vehicles are being removed and disposed of as scrap by the L.N.E.R.

British Railways and Road Passenger Transport

An interesting feature of the annual accounts of the four main-line railway companies in recent years up to and including 1938 has been that section of Account No. 8 (Revenue Receipts & Expenditure of the Whole Undertaking) which shows the return on the capital invested in the numerous passenger and freight road transport concerns with which the railways have become associated since 1928. By Order of the Minister of Transport, the accounts for 1940 have been published once more in a greatly restricted form in consequence of the Government control exercised in view of the war. As, however, the dividends from investments in other undertakings are items outside the terms of the financial arrangements with the Government, they appear for 1940 in Account No. 8 in much the same form as in previous years. On the passenger side, the railways have large direct shareholdings in 33 of the principal road transport undertakings operating in the provinces, details of which are given in the accompanying table.

The profitable nature of these investments is indicated by the high return secured last year. The G.W.R. has investments totalling £2,300,133, which yielded a return of £242,821 or 10.55 per cent., compared with 9.93 per cent. in 1939; the L.N.E.R. secured a return of £436,897 on its investment of £2,437,123, namely, 17.92 per cent., against 16.53 per cent., and the L.M.S.R. investment of £3,067,488 returned £432,618, or 14.10 per cent., compared with 13.36 per cent. in 1939. Both the L.M.S.R. and the L.N.E.R. increased the holdings in W. Alexander & Sons Ltd. during 1940 by £50,000. The Southern Railway Company has nearly £2,000,000 invested in passenger road transport undertakings; as these are not charged to capital expenditure the details are not given in the annual accounts, but by the courtesy of the Chief Accountant, Mr. R. G. Davidson, we are again enabled to include particulars of the nominal holdings and earnings, as has been the case for some years past.

RAILWAY SHAREHOLDINGS IN PASSENGER ROAD TRANSPORT AT DECEMBER 31, 1940, SHOWING EARNINGS FOR THE PAST YEAR

Associated Company	Issued Share Capital	L.N.E.R.		L.M.S.R.		G.W.R.		S.R.	
		Holding	Earnings	Holding	Earnings	Holding	Earnings	Holding	Earnings
Aldershot & District Traction Co. Ltd. ...	250,000 Ord. ...	—	—	—	—	—	—	82,721	8,272
W. Alexander & Sons Ltd. ...	1,100,000 Ord. ...	150,000	39,831	150,000	39,831	—	—	—	—
	250,000 6% Part. Pref. ...	125,000	—	125,000	—	—	—	—	—
Birmingham & Midland Motor Omnibus Co. Ltd. ...	1,440,000 Ord. ...	—	—	432,000	64,800	288,000	43,200	—	—
	100,000 8% Cum. Pref. ...	—	—	—	—	113,000	14,936	—	—
City of Oxford Motor Services Limited ...	74,000 6½% Cum. Pref. ...	—	—	—	—	—	—	—	—
Crosville Motor Services Limited ...	1,100,000 Ord. ...	—	—	412,071	32,966	137,357	10,989	—	—
Cumberland Motor Services Limited ...	150,000 Ord. ...	—	—	49,999	7,148	—	—	—	—
Devon General Omnibus & Touring Co. Ltd. ...	200,000 Ord. ...	—	—	—	—	40,917	5,115	27,279	3,410
	150,000 7% Cum. Pref. ...	—	—	—	—	—	—	—	—
Eastern Counties Omnibus Co. Ltd. ...	756,000 Ord. ...	184,089	21,385	25,282	2,937	—	—	—	—
	200,000 5% Cum. Red. Pref. ...	—	—	—	—	—	—	—	—
Eastern National Omnibus Co. Ltd. ...	900,000 Ord. ...	225,000	23,478	225,000	23,478	—	—	—	—
East Kent Road Car Co. Ltd. ...	450,000 Ord. ...	—	—	—	—	—	—	151,355	Nil
	200,000 6½% Cum. Pref. ...	—	—	—	—	—	—	—	—
East Midland Motor Services Limited ...	250,000 Ord. ...	83,333	11,594	41,667	5,797	—	—	—	—
East Yorkshire Motor Services Limited ...	300,000 Ord. ...	149,362	20,781	—	—	—	—	—	—
Hants & Dorset Motor Services Limited ...	550,000 Ord. ...	—	—	—	—	—	—	213,555	32,795
	150,000 6½% Cum. Pref. ...	—	—	—	—	—	—	—	—
Hebble Motor Services Limited ...	120,000 Ord. ...	15,000	2,250	45,000	6,750	—	—	—	—
Highland Transport Co. Ltd. ...	35,000 Ord.* ...	—	—	17,500	1,313	—	—	—	—
Lincolnshire Road Car Co. Ltd. ...	200,000 Ord. ...	63,929	6,393	15,985	1,599	—	—	—	—
Maidstone & District Motor Services Limited ...	750,000 Ord. ...	—	—	—	—	—	—	263,492	29,648
	200,000 6½% Cum. Pref. ...	—	—	—	—	—	—	—	—
Northern General Transport Co. Ltd. ...	831,081 Ord. ...	365,767	36,577	—	—	—	—	—	—
	300,000 6½% Cum. Pref. ...	—	—	—	—	—	—	—	—
North Western Road Car Co. Ltd. ...	750,000 Ord. ...	124,444	17,704	248,888	35,407	—	—	—	—
Ribble Motor Services Limited ...	1,200,000 Ord. ...	—	—	530,445	53,044	—	—	—	—
	200,000 6½% Cum. Pref. ...	—	—	—	—	—	—	—	—
Scottish Motor Traction Co. Ltd. ...	1,341,305 Ord. ...	335,326	58,318	335,326	65,264	—	—	—	—
	1,000,000 6½% Cum. Pref. ...	—	—	106,863	—	—	—	—	—
Southdown Motor Services Limited ...	750,000 Ord. ...	—	—	—	—	—	—	242,792	24,279
Southern National Omnibus Co. Ltd. ...	542,200 Ord. ...	—	—	—	—	—	—	271,100	23,574
Southern Vectis Omnibus Co. Ltd. ...	115,000 Ord. ...	—	—	—	—	—	—	57,500	8,260
	15,200 6% Cum. Pref. ...	—	—	—	—	—	—	15,000	—
Thames Valley Traction Co. Ltd. ...	250,000 Ord. ...	—	—	—	—	85,191	10,578	36,510	4,534
Trent Motor Traction Co. Ltd. ...	540,288 Ord. ...	75,147	7,515	150,293	15,029	—	—	—	—
United Automobile Services Limited ...	1,627,233 Ord. ...	798,412	127,742	—	—	—	—	—	—
	150,000 7% Cum. Pref. ...	39,622	—	—	—	—	—	—	—
Western National Omnibus Co. Ltd. ...	2,000,000 Ord. ...	—	—	—	—	1,000,000	128,348	—	—
	400,000 6% Cum. Pref. ...	—	—	—	—	400,000	29,656	—	—
Western Welsh Omnibus Co. Ltd. ...	507,500 Ord. ...	—	—	—	—	253,750	—	—	—
West Yorkshire Road Car Co. Ltd. ...	787,500 Ord. ...	195,843	32,095	195,843	32,095	—	—	—	—
	200,000 6½% Cum. Pref. ...	—	—	—	—	—	—	—	—
Wilts & Dorset Motor Services Limited ...	120,000 Ord. ...	—	—	—	—	—	—	30,724	5,129
Yorkshire Traction Co. Ltd. ...	437,500 Ord. ...	107,289	17,306	107,289	17,306	—	—	—	—
	24,350 7% Non-Cum. Pref. ...	4,661	—	4,662	—	—	—	—	—
Yorkshire Woollen District Transport Co. Ltd. ...	528,000 Ord. ...	88,000	13,927	176,000	27,854	—	—	—	—

* Highland Transport Co. Ltd. shares are 17s. The L.M.S.R. holds 17,500 ordinary shares

THE BLACKOUT IN EAST KENT 25 YEARS AGO

In February, 1916, drivers employed by the Folkestone District Road Car Company (a constituent of the East Kent Road Car Co. Ltd.) refused to drive buses at night owing to the severity of the lighting restrictions. In addition to the dangers resulting from darkness and reduced lighting, the roads in the Folkestone area had become badly pot-holed owing to heavy military traffic.

PRODUCER-GAS IN THE FAR EAST AND ITALY

Numbers of road vehicles have been put into traffic in Manchukuo recently in which the native brown coal is used as fuel after treatment. It is burned in a gas producer.

According to Italian official figures quoted by Reuters, one third of the buses and taxis in Rome have now been converted from petrol to producer-gas propulsion, a movement which was begun before the war.

The World's Motor Vehicles

Statistics published in South America, based on a world census, show that 44½ million motor vehicles are in use, of which 65 per cent. are in the western hemisphere

THE Boletim do Conselho Federal de Comercio Exterior, a trade journal published in Rio de Janeiro, has compiled some interesting statistics relating to the number of road motor vehicles, in 1940, in all the different countries of the globe. The census is reproduced below as given in the Boletim, and it will be seen that according to this summary there are no fewer than 44½ millions of vehicles in use. The countries of the western hemisphere account for about 65 per cent. of the total, or say, 32 millions, and of this the U.S.A., with 30 millions, has by far the greater part. Outside the New World, Great Britain is first, with 2,600,000 vehicles, rather a long way behind the U.S.A. In the United States there is one vehicle to every five inhabitants, and in Great Britain one to every twenty. It is pointed out in the Boletim that, while the countries in the list are shown in the order of the total number of vehicles, the importance of the other columns should not be disregarded. For example, Brazil occupies fourteenth place in the first column, but is

tenth in the third, an indication of the importance of goods transport in the internal economy of the country. Again, in Brazil passenger cars form 60 per cent. of the total and goods vehicles and buses 40 per cent., while in the neighbouring Republic of Argentina the proportions are 71½ per cent. and 28½ per cent. respectively. The figures for Great Britain are, 78 per cent. motorcars and 22 per cent. lorries and buses, and for the U.S.A. 85½ per cent. and 14½ per cent. respectively. In the number of buses Great Britain easily holds first place. The following is a summary of the total figures in the main table, divided into continents:—

America	...	...	...	32,489,324
Europe	...	...	...	9,436,555
Oceania	...	...	...	1,200,808
Asia	...	...	...	695,738
Africa	...	...	...	692,974
Total	...	...	...	44,515,399

Countries	Totals	Motorcars	Lorries	Buses	Motorcycles
United States	30,180,224	25,804,340	4,370,829	55,055	118,344
Great Britain	2,608,501	2,039,921	481,871	86,709	411,593
France	2,268,985	1,817,641	451,344	*	*
Germany	1,951,189	1,486,451	451,036	23,302	1,860,722
Canada	1,420,924	1,182,560	235,632	2,732	12,265
Australia	854,150	610,750	243,400	*	77,000
U.R.S.S.	750,000	100,000	650,000	*	*
Italy	475,000	350,000	115,000	10,000	200,000
South Africa	368,000	315,000	53,000	*	25,000
Argentina	292,400	208,944	83,456	*	2,000
New Zealand	278,214	222,626	55,588	*	17,749
Belgium	225,445	151,917	71,488	2,040	65,200
Sweden	217,500	159,600	52,700	5,200	40,000
Brazil	202,812	122,061	44,786	5,965	3,407
India	185,000	132,500	52,500	*	11,417
Denmark	164,350	118,350	44,200	1,800	30,100
Holland	156,150	98,000	53,800	4,350	60,000
Japan	140,000	65,000	75,000	*	60,000
Mexico	105,470	80,000	19,020	6,450	4,000
Norway	99,777	61,126	35,118	3,533	20,876
Switzerland	94,850	72,500	20,650	1,700	26,000
Dutch East Indies	76,144	53,592	13,514	9,038	14,110
Algeria	70,000	60,000	8,000	2,000	4,400
Spain	70,000	†	†	†	†
Eire	67,110	56,000	10,200	910	2,700
Hawaii	63,260	51,000	12,260	*	*
Finland	53,000	30,000	23,000	6,350	573
Philippines	52,776	32,822	15,743	4,211	573
Northern Ireland	50,000	38,000	12,000	2,900	2,900
Portugal	49,320	35,800	11,810	1,710	4,950
Chile	48,499	32,915	13,803	1,781	815
Cuba	47,700	28,900	18,800	*	325
Malaya	45,063	32,873	9,945	2,245	3,500
China	44,750	23,750	13,500	7,500	*
Morocco	37,750	27,750	8,700	1,300	3,250
Egypt	33,787	29,473	2,989	1,325	2,209
Colombia	33,189	18,554	11,635	3,000	319
Venezuela	33,024	17,635	13,847	1,542	1,100
Rhodesia	30,099	20,756	9,343	*	2,354
Roumania	29,000	20,000	5,500	3,500	2,500
British East Africa	28,417	17,189	10,862	366	3,666
Uruguay	28,058	21,069	6,989	*	*
Ceylon	28,044	21,102	4,307	2,635	3,000
Hungary	25,200	19,500	5,000	700	1,100
Italian East Africa	22,940	16,419	6,460	61	965
Puerto Rico	22,500	17,000	5,500	200	200
Peru	22,216	13,096	7,757	1,363	339
Yugoslavia	21,783	15,768	5,009	1,006	11,279
Tunisia	20,000	16,250	3,750	*	1,770
British West Africa	16,000	7,000	9,000	*	800
French West Africa	15,803	6,161	9,642	1,265	1,265
Greece	15,500	7,000	6,000	2,500	1,500
Manchukuo	15,000	5,000	10,000	*	190
Palestine	13,725	8,146	4,325	1,254	1,200
Panama	13,105	10,906	1,648	551	60
Turkey	12,872	4,611	7,510	751	1,967
Thailand	12,065	6,000	5,198	867	950
Jamaica	11,792	8,929	2,715	148	297
Iran	11,152	3,772	7,380	*	250
Syria	10,859	8,716	1,661	482	777
Luxembourg	10,709	7,045	3,474	190	3,379
Korea	9,500	2,600	3,900	3,000	1,800
Trinidad	9,922	5,729	3,193	1,000	1,000
Madagascar	7,444	5,214	2,178	52	2,802
Iraq	6,800	4,500	2,300	*	125
Belgian Congo	6,652	3,172	3,480	*	1,615
Latvia	6,687	3,399	2,946	342	3,357
Estonia	6,559	3,672	2,600	287	3,558
Portuguese East Africa	6,500	3,500	3,000	*	775
Newfoundland	5,459	4,200	1,180	79	173
Malta	5,259	3,800	833	626	400
Hong Kong	5,000	4,000	1,000	—	300

Countries	Totals	Motorcars	Lorries	Buses	Motorcycles
Sudan	4,850	2,170	2,680	—	—
Bulgaria	4,500	2,750	1,750	—	1,500
South West Africa	4,500	3,100	1,400	—	100
Dutch Antilles	4,365	3,054	882	429	190
Guatemala	4,115	2,361	1,125	629	615
Alaska	4,056	2,209	1,847	—	28
Costa Rica	4,002	2,379	1,140	483	345
Ecuador	3,602	1,656	1,580	366	82
El Salvador	3,407	2,513	498	396	556
Lithuania	3,250	1,250	1,950	50	235
Martinique	3,116	2,026	770	320	2,717
Barbados	2,975	2,320	555	100	120
Mauritius	2,754	2,171	469	114	87
Dominican Republic	2,780	2,212	430	138	225
Haiti	2,650	1,750	900	—	180
Afghanistan	2,427	1,992	435	—	60
Guadeloupe	2,400	400	2,000	—	—
Bolivia	2,250	1,775	405	70	90
Cyprus	2,160	954	1,064	139	—
Iceland	2,100	—	—	—	475
Fiji Islands	2,075	835	1,120	120	150
Monaco	2,027	1,186	841	—	91
Canaries	2,000	1,500	500	—	150
British Guiana	1,891	1,459	432	—	228
Bahamas	1,600	1,200	400	—	45
Tripolitania	1,505	1,230	230	45	170
Réunion	1,500	1,100	400	—	—
Honduras	1,341	665	692	14	8
Nyasaland	1,341	809	532	—	32½
French Equatorial Africa	1,265	738	527	—	200
Madeira	1,230	800	298	140	20
Gibraltar	1,155	925	190	40	—
British Somaliland	1,133	491	380	262	12
Arabia	1,120	862	136	122	23
New Caledonia	1,116	965	151	—	274
Spanish Morocco	1,060	—	—	—	—
Azores	880	740	140	—	125
Virgin Islands	825	557	257	11	9
Nicaragua	803	574	208	21	76
Basutoland	725	550	175	—	—
Tangier	673	572	90	11	32
Bechuanaland	600	400	200	—	—
Grenada	560	406	160	—	—
French Oceania	526	367	159	—	80
Transjordan	501	301	167	33	16
Papua	500	325	175	—	35
Bahrain	467	316	71	80	18
Macao	400	220	180	—	—
St. Kitts	392	302	90	—	38
Outer Antilles	350	275	75	—	—
French Guiana	347	146	201	—	6
British Somaliland	325	—	—	—	15
Samoa	331	149	182	—	—
Antigua	314	249	65	—	21
St. Pierre and Miquelon	102	38	64	—	7
Dutch Guiana	271	220	50	1	109
British Honduras	250	135	115	—	2
Seychelles	160	135	25	—	90
St. Lucia	158	116	42	—	21
Liberia	125	75	50	—	—
Montserrat	112	87	25	—	—
Dominica	93	67	26	—	14
Faroes	91	19	72	—	6
Cook Islands	84	41	43	—	5
Bermudas	68	2	58	8	—
Spitzbergen	2	1	1	—	—
Totals	44,515,399	36,152,700	8,017,254	269,089	3,165,912

* Included in lorries. † Included in total; note, motorcycles are not included in the total

Co-ordination of Rail and Road

A summary of a Keith Lecture on Transport, delivered by Mr. George Mills, Divisional General Manager, L.N.E.R., to the Royal Scottish Society of Arts, on February 15

Internal transport in an industrial country is a highly complex organisation comprising services by rail, road, inland waterway, coastal steamer, and commercial aviation. Road transport made its biggest strides after the last war, as shown by the following figures:—

	Aug., 1924	Aug., 1930	Aug., 1938
Private motorcars	474,000	1,042,000	1,916,000
Goods vehicles	203,000	334,000	511,000
Motor hackneys, buses, taxis...	94,000	99,000	88,000

The development of the motorbus was allowed to proceed for some years haphazardly, unfettered by legislative or other control. The Road Transport Act, 1930, in the case of passenger carriage, established Traffic Commissioners who issue licences permitting services to be operated only on proof of need exists and only after consideration of objections by operators already providing transport. Section 72 (4) (b) of this Act states:—

"Where desirable in the public interest the fares shall be so fixed as to prevent wasteful competition with alternative forms of transport, if any, along the route or any part thereof, or in proximity thereto."

These words visualise a wider than road conception which must take both rail and road into account. In 1928 the railway companies obtained statutory powers to engage in road transport; previously they had been forbidden by statute from engaging in road transport other than the collection and delivery of goods conveyed by rail. The railway companies acquired substantial interests in bus concerns.

Road Transport—Goods

It was not until the Road & Rail Traffic Act was passed in 1933 that an attempt was made to introduce order into the operation of goods-carrying vehicles. Under that Act it became illegal for any motor vehicle or trailer to be used on a road for the carriage of goods for hire or reward, or in connection with any trade or business carried on by the user except under a licence. Licences were divided into three classes: "A," for hauliers engaged wholly in carrying goods for others; "B," authorising the holder to carry goods in connection with his business, and subject to special conditions for hire or reward; and "C," for the carriage of goods only in connection with the trade or business of the licensee. A "C" licence is granted almost automatically.

After the first licensing period "A" and "B" operators had to justify their applications before the licensing authorities. The latter must have regard to the interests of the public, including those of users and persons providing similar facilities. The vehicles must be properly maintained; speed and loading restrictions must be complied with; statutory hours of duty of drivers observed, and records of hours of duty, journeys and loads kept for inspection.

Between 1936 and 1938 the vehicles authorised under "A" licences increased by 2,723 to 93,216, and "B" licensed vehicles rose by 2,097 to 54,906. These combined increases amounted to 3.4 per cent. only, and in the same period the number of vehicles under "C" licences increased by 48,311 to 365,025, or 15.3 per cent. In 1938, 51 per cent. of "A" and 73 per cent. of "B" licence holders had only one vehicle specified on their licences. The Road & Rail Act, 1933, gave the licensing authorities no power to fix rates.

Rail Transport

A railway is subject to numerous Government requirements. Its conduct is regulated as to charges, constructional and safety requirements, and the preparation of statistics.

As in 1914, at the outbreak of the present war the railways came under Government control; the Minister of Transport exercises his powers through the Railway Executive Committee. During Government control from 1914 to 1921 the

railway net receipts became the property of the Government and in compensation the companies received payments corresponding to the net receipts for 1913, together with an allowance in respect of the cost of arrears of maintenance work and other matters not reflected in the 1913 net receipts.

During the present war the procedure for the adjustment of rates under the 1921 Act is suspended and new machinery has been agreed by which charges will be adjusted to meet variations in working costs and other conditions arising from the war. All former inter-company pooling and division arrangements have been suspended, and the net receipts of each of the undertakings are put into a common pool which if necessary the Government will make up to approximately £40,000,000.

Rail and Road Relationship

The railway campaign for a Square Deal culminated in April, 1939, in a report by the Transport Advisory Council which recommended, subject to safeguards, the repeal of railway legislation governing classification, standard charges, exceptional rates, and undue preference. The council endorsed the decision of railways and road transport to work together to reach agreement on rates and proposed that there should be legislation to enforce agreements.

The Future of Transport

The Government can condition the future of transport by any of the following means:—

- (1) It can hand back the railways to their owners and permit road hauliers to resume as before.
- (2) It can nationalise the railways or impose a grouping into one railway and leave road operation as it was.
- (3) It can nationalise the road industry and restore the railway *status quo*.
- (4) It can nationalise both road and rail transport.
- (5) It could institute a measure of control either by allocation of traffics or by imposing statutory rates agreed or otherwise) on both rail and road transport.
- (6) It might eliminate "C" licences, except for local delivery work or prevent a further increase in their number except upon proof that the public carriers, both road and rail, cannot provide a satisfactory service.
- (7) It might eliminate the "B" licence as detrimental on a long view to the efficiency of public carrying.
- (8) It might subsidise one or more forms of transport and let cut-throat competition have its head.
- (9) There might be compulsory amalgamation into a limited number of road haulage interests, followed by a grand pooling of receipts covering both rail and road.

Government action would have to cover both rail and road. Canal and coastwise shipping could probably be brought within the ambit of any rail-road scheme. Whether transport is State-owned, State-controlled, or State-ignored the fundamental problem will be the rates charged for the carriage of goods. Broadly, railway rates are based on the value of the commodities carried; road rates on the cost of carrying them. Overheads on the railway are 80 per cent. and on the roads 20 per cent. Railway rates are national and road rates are governed by the conditions of the moment. The greatest hurdle is the "C" licence and if continued the cost of this conveyance will regulate rail and road rates. There were 178,000 "C" licences in operation in 1938. Statutory enforcement of agreements would be required for the fixation of rates. A differential based on the service given would be equitable as an alternative to an agreed rate structure or complementary to it. Traffic might be allocated between rail and road, or a system introduced whereby traffic was conveyed over trunk routes by rail and redistributed by road.

A Plan for Transport in Peace

Below is summarised a paper by Brig.-General Sir H. Osborne Mance, read before the Institute of Transport on March 10, in which is outlined a plan to determine priority of means of transport and the allocation of the available traffic

THE war and peace problems of road and rail transport are quite different. The war problem is first how to co-ordinate all forms of transport so as to obtain maximum capacity, and secondly how to organise the priority of traffics in order of their importance. The peace problem of transport co-ordination is primarily based on the assumption that the supply of transport facilities can easily exceed the demand and consists in finding a policy which will determine the correct priority of the means of transport and the allocation of the traffic offering. A national transport policy should be directed to the well-being of trade and industry as a whole; in principle transport should not be a burden on the taxpayer. The interests of users or providers of transport should be subordinate to the public interest.

Division of Function

In 1932 the Salter Conference reported that the railway members had suggested a division of function which would result if a single administration, without divergence of financial interest, were solely occupied in meeting the needs of the public by the most convenient and most economical arrangement of transport. With common financial interest in both means of transport, traffic would tend to be sent by that form which involved least out-of-pocket cost of working and thus, at a given rate, contributed most to the common overheads. In order to encourage traffic to flow by the cheapest means the rates by the most expensive means would tend to exceed the rates by the cheaper by the difference in the out-of-pocket cost of working. Traffic would go by the more expensive route only if the service justified it.

Rate Structure

It is important for a healthy national transport system to operate simultaneously the value and cost rate structure. A combined road and rail monopoly would comply with the theoretical conditions for an economically sound road and rail transport system. The traffic would tend to go by the best economic route and a single rate structure could be applied, the obligation to carry, maximum generalised rates, publication and non-discrimination, could be maintained and extended to road transport, and wasteful duplication of capital expenditure would be minimised. Against this, a combined monopoly kills incentive to progress and service, and a State monopoly would tend to political interference.

Unification Difficulties

Unification of railways would be comparatively easy, but the unification of road transport would be most difficult. There are some half a million commercial goods vehicles with over 220,000 operators, of which 150,000 vehicles are owned by 60,000 "A" and "B" hauliers, and the balance by ancillary users. It is quite impossible effectively to control such a large number of undertakings in the observance of regulations, submissions of returns, and, above all, adherence to agreed tariffs. Nor are these small undertakings in a position to carry out obligations which might form part of a unified road transport system; these difficulties would be accentuated in the case of the 160,000 ancillary owners.

Other Courses

The future relations between all the means of transport might be decided by a straight fight between them, on the basis of unrestricted competition. Another course would be to achieve equality between road and rail by imposing some of the present railway obligations on road transport. Another solution is separate competitive road and rail monopolies which would come to an agreement without the intermediate stage of mutual destructive competition. This would only be practicable between large units. Another line of approach would be an arbitrary division of traffic between road and rail—long distance to rail, short distance to road,

including ancillary transport. This would obviously hamper the free use of transport where long-distance road transport and short-distance rail transport are economically justified. The supervision of a radius limitation might be difficult if ancillary transport is not restricted as to its radius.

Fixation of Costs

Assuming that the best division of function would result if a single administration, without divergence of financial interest, was solely occupied in meeting the needs of the public, and with division of function would lead to traffic being sent by the means involving the least out-of-pocket cost of working, one could separate the out-of-pocket costs of working from the fixed costs of the different means of transport, and imagine the common financial interest to refer only to those fixed costs leaving the out-of-pocket costs to be determined by free competition. If it were possible for all transport to contribute to the fixed costs of transport as a whole on an identical basis, the competition on the basis of out-of-pocket costs would be on a footing of equality never yet obtained.

Basis of Costs

The only basis which can apply equally to the railways and roads is a ton-mile basis of traffic carried. If a value rate structure is decided on, the contribution per ton-mile would vary with the commodity carried. If a cost rate structure is decided on the contribution per ton-mile would in theory be uniform, though in practice considerable departures might have to be made. The control and upkeep of fixed installations would have to be under a special body which would in effect control the whole transport rate structure of the country, as the competing transport undertakings could grant rate reductions only within the limits of savings in operating costs. The valuation of the earning power of fixed assets would have to be faced in any scheme of combined monopoly.

The main questions on which the practicability of the scheme would depend are, first, the problem of calculating what should be the contribution or toll paid towards fixed charges both from the point of view of the resulting traffic rates and from the point of view of balancing the fixed installations budget; and, secondly, the method of ensuring the collection of this toll. With a value rate structure, the calculation of the toll would probably be based largely on railway tariffs. Statistics of total traffic by road and rail would be necessary to strike a balance between the totals of fixed charge contributions and fixed charge expenditure. The collection of the toll would be easy from the railways, from the large hauliers, and from the larger firms with ancillary transport which keep reliable records. It therefore depends on the reduction of the number of road hauliers to manageable proportions. Assuming that a suitable check on records of petrol consumption can be devised, it might be found easiest for registration and petrol taxation to be collected as at present and credited to the toll account of each road undertaking.

Advantages of Scheme

If the scheme is practicable, it would leave the user absolutely free to decide by which means of public transport he will send his goods or whether he will provide his own transport. It is independent of the nature of the rate structure which can be decided solely in the interests of trade and industry. It would admit of free competition between road and rail on a basis of absolute equality. It does not preclude operating and rate agreements on the lines of the "Square Deal" report, if desirable. It is not dependent on any restriction of the total number of vehicles licensed. It should avoid wasteful duplication of capital expenditure. It would enable any general taxation imposed on transport to be levied on transport as a whole on an identical basis, should this be the Government's policy. By preserving competition it would encourage technical re-organisation.

Road Transport and the War—20

War savings and the road transport industry—London express buses withdrawn—The provincial fleet loaned to the Metropolis

An advisory committee to encourage war savings in the road transport industry is to be set up in accordance with a decision made at a meeting on April 9 attended by representatives of the National Savings Committee and of the employers' organisations and the trade unions in the industry. Mr. E. S. Shrapnell-Smith presided, and among those present were:—

Lord Kindersley, President of the National Savings Committee, Sir William Brass, M.P., Parliamentary Private Secretary to the Minister of Transport; Mr. J. S. Willis, President, Omnibus Owners Association; Major H. E. Crawford, President, Associated Road Operators; Major R. A. B. Smith, President, Commercial Road Users Association; Mr. C. H. Catry, Vice President, National Association of Furniture and Warehousemen Removers; Mr. C. B. Clapham, General Secretary, Municipal Tramways & Transport Association; and Mr. H. R. Nicholas, on behalf of Mr. Harold Clay, Assistant General Secretary, Transport and General Workers' Union. Mr. James Paterson, President of the National Conference of Express Carriers, was also represented.

Lord Kindersley said it was important to enlarge the number and membership of savings groups in the transport industry. There were now about 200,000 savings groups in the country and the various facilities for savings (such as deductions from pay and arrangements for collecting additional contributions) should be made more readily available to transport workers. Sir William Brass, M.P., said the Minister of Transport supported the drive to form savings groups, and all the representatives of the industry present gave similar assurances on behalf of their organisations. It was decided to hold a further meeting on April 29 when officers and members of the committee will be appointed and plans discussed.

Vehicle Immobilisation in the Event of Invasion

The Ministry of Transport has again stressed the fact that every owner of a motor vehicle should be ready, in the event of invasion, to immobilise his car, cycle, or lorry, the moment the order is given. Failure to act promptly would give the enemy the chance to provide himself with transport, and accordingly the Ministry has issued the following information and advice on what must be done when the Police or the Civil Defence services intimate that immobilisation of vehicles has been ordered in their area:—

Remove distributor head and leads, and empty the tank or remove the carburettor. In the case of diesel engines remove the injection pump and connection. Hide the parts removed well away from the vehicle.

HELP!

To get the workers to and from their jobs.

To save petrol and fuel oil.

To reduce congestion.

To aid your own comfort.

AVOID

RUSH HOUR

TRAVEL

ISSUED BY
WESTERN WELSH
OMNIBUS COMPANY, LIMITED

Two recent press advertisements of railway-associated bus companies



Do You Know

THAT during the recent snow blizzard over 50 of the Company's vehicles were isolated for several days, and had to be dug out

THAT many of our staff had to walk distances up to 15 miles during darkness to get back to their homes

THAT the night staff worked strenuously to keep vehicles clear and roadworthy

THAT letters have poured in congratulating drivers and conductors on their outstanding deeds during the storm

THAT over 100 omnibuses suffered heavy damage resulting in increased pressure on already overtaxed maintenance staff

THAT under those conditions we operated full or skeleton services on 90% of our routes

Despite the difficulties United are operating their normal time-tabled and special services.

Please help us by leaving "peak hour" accommodation for the workers.

UNITED
AUTOMOBILE SERVICES, LTD.

Head Office: GRANGE ROAD, DARLINGTON

Fuel tanks can be emptied through the drain plug if one is provided or, as an emergency measure, the tank can be punctured at its lowest part, e.g. by a large nail. Care should be taken that fuel drained from tanks is not emptied where it will flow into drains; otherwise, a serious explosion may occur. These are minimum requirements. It will be all to the good if other readily removable parts of the mechanism are also taken away.

Where no order has been issued, but it is obvious that there is an immediate risk of the vehicle being seized by the enemy, the distributor head, magneto, or fuel injection pump should be smashed with a spanner or hammer and high-tension leads removed.

Order for the immobilisation of vehicles may apply to all motor vehicles or only certain classes of motor vehicles. The areas affected will not necessarily be confined to coastal areas.

Owners of garages and large fleets of vehicles may be required to remove from a specified area stocks of spare parts or parts taken from their vehicles and should make provisional arrangements accordingly.

Road Haulage Rates

On April 2 it was announced that the Minister of Transport had appointed a Road Haulage (Rates) Joint Consultative Committee to advise him on any questions that he might refer to it regarding road haulage rates. Sir Arthur Eborall, C.B.E., Controller of Transport Rates and Charges of the Ministry of Transport, is Chairman, and, in addition to representatives of the Ministries of Food, Supply, and Air, and the War Office, the following have been appointed:—

S. J. Page	Assistant Secretary, Ministry of Transport
R. Eyres	Ministry of Transport
W. H. Greenall	Representing the Traders' Co-ordinating Committee on Transport and the National Farmers' Union
J. J. Hughes	
F. L. Sabatini	
W. A. Shepherd	
Chris. Smith	
Frederick Smith	Representing operating interests
J. E. Corrin	
W. J. Elliott	
J. S. Nicholl	
J. Paterson	
R. W. Sewell	
B. G. Turner	
J. H. Turner	
T. Worsley	

Mr. R. Eyres will also act as secretary to the committee. All the operating representatives are members of the Minister's Road Haulage Consultative Committee.

Withdrawal of Express Buses in London

One of the war measures of the London Passenger Transport Board to assist passengers to travel more quickly to and from work, especially during the short winter days, was the introduction of express buses working mornings and evenings between the inner suburbs and Central London. The first of these began to work on October 24 last (see our issues of October 25, page 441, and November 1, page 461) on ten express routes. The experimental scheme proved popular and ten more express routes came into being on November 4 (see page 568 of our November 29 issue). As these express bus services were instituted primarily to cover the period when darkness set in at an early hour, the main need has passed now that there is daylight when most persons are leaving their business. In any event, the use made of the express buses was less than that of the ordinary service buses and does not justify their retention during the summer months. Accordingly, express buses were withdrawn from routes 17, 35, 60, and 113 on February 19 and from all the other routes on March 19, except route 23, where they are

Road Transport Section

being retained for the present. The matter will be reviewed before next winter. In almost all cases where express buses have been withdrawn, additional ordinary journeys have been introduced on the routes over which the express buses ran.

Scottish and Provincial Buses loaned to London

Another wartime expedient which has recently been subjected to considerable alteration is the use of Scottish and provincial buses in London. It may be recalled that, by arrangement with the Ministry of Transport, various bus undertakings working outside the London area agreed last October to lend up to 2,000 buses to the London Passenger Transport Board to help workers to travel more speedily to and from work, especially during the height of the autumn air raids on the Metropolitan area. The arrangement, briefly recorded at page 442 of our October 25 issue, provided that the loaned buses should be manned by London Transport drivers and conductors. The first of these buses (from Halifax) was placed in London service on October 23. These emergency plans envisaged more serious dislocation of suburban railway services, as the result of enemy air raids, than actually occurred, and the maximum number of borrowed buses employed in London was 467, details of which are given in the accompanying table. Some of the buses have since been needed by their owners, and have been returned; the total of the loan fleet at present working in London has been reduced to 285. The Minister of Transport has suggested to Lord Ashfield that the London Passenger Transport

Board shall affix to each bus before sending it home a plate with the words: "London, 1940-41." If the owners have no objection, every borrowed vehicle will bear this mark of appreciation.

In addition to motorbuses, London Transport has borrowed 18 double-deck trolleybuses from Bournemouth Corporation, and these are working in the Ilford area.

The Single-Line Tram Staff in London

In places on the London tramway system where enemy action has made temporary single-line working necessary, the London Passenger Transport Board operates a simplified form of "train staff and ticket" traffic control. "Tickets" are dispensed with, and the driver of the car at the tail of a queue wishing to proceed over the single section carries the authority for all the cars in the queue in the form of a



Handing the "last vehicle" board to tram driver

tinplate board, some 12 in. x 3 in., with rounded corners, lettered (red on white) "Last Car." The absence of this board from one or other end of the section thus indicates that the section is occupied.

Strategic Road Construction

Two schemes for important strategic motor roads, of which details have reached us recently, concern German activity in Denmark and Slovakia. The Danish *Autobahn* is to connect Copenhagen with a point on the south coast of the Island of Zealand, whence a ferry service is to be operated to the German coast in connection with the German *Reichsautobahn* system. The Slovak scheme is for a motor road from Pressburg (Bratislava) to Michalowitz and the Hungarian frontier, subsequently to be extended through Hungary into Roumania. This Slovak road is to join the main German *Autobahn* system at Turc St. Martin, on the trunk road from Berlin to Sillerin through Moravia.

Road Transport in Italian East Africa

The wide and rapid development of the road system in Italian East Africa, after the Italian invasion of Abyssinia, soon led to a state of confusion as regards vehicular transport, and after ineffectual attempts at regulation the Ministry promulgated a special law in 1937, providing for the constitution of an autonomous corporation, the *Compania Italiana Trasporti Africa Orientale* (C.I.T.A.O.). The company was duly formed, on industrial but non-profit lines. It appears to have had virtually a monopoly of public road transport of both passenger and goods, the tariffs for which were approved by the Italian Government; service and equipment were also subject to Government inspection. It operated 17 regular services, totalling 7,544 km. (4,688 miles) and varying in length from one hour to five days. Examples of the longer runs were those from Massaua to Addis Ababa (3 days), Mogadiscio-Harar (4 days), and Mogadiscio-Bender Cassim (5 days); these three services ran respectively daily, weekly, and fortnightly. One of the vehicles is illustrated on the next page.

Undertaking	Total buses received	
	Double-deck	Single-deck
Benfleet & District Motor Transport Co. Ltd.	1	
Birmingham City Transport	30	
Bolton Corporation Transport	25	
Bradford Corporation Passenger Transport	8	
J. Bullock & Sons (1928) Ltd.	1	
Chesterfield Corporation Transport	4	
Cleethorpes Corporation Transport	2	
Colchester Corporation Transport	2	
Exeter Corporation Transport	3	
*Halifax Corporation Passenger Transport	8	
*Huddersfield Corporation Passenger Transport	3	
Hull Corporation Transport	16	
Leeds City Transport	24	
Leicester City Transport	9	
Lowestoft Corporation Transport	1	
Manchester Corporation Transport	90	
Middlesbrough Corporation Transport	1	
Newcastle-upon-Tyne Corporation Transport & Elec- tricity Undertaking	14	
Northampton Corporation Transport	5	
Plymouth Tramways & Transport	7	
Portsmouth Passenger Transport	10	
Preston Corporation Transport	6	
*Sheffield Corporation Transport	12	
Swindon Corporation Passenger Transport	1	
West Bridgford U.D.C. Passenger Transport	3	
West Riding Automobile Co. Ltd.	6	
Totals	292	0
<i>Companies associated with Thos. Tilling Limited or Tilling & British Automobile Traction Limited—</i>		
Brighton, Hove & District Omnibus Co. Ltd.		
Bristol Tramways & Carriage Co. Ltd.		6
Eastern Counties Omnibus Co. Ltd.		7
Eastern National Omnibus Co. Ltd.		6
East Midland Motor Services Limited		4
Hants & Dorset Motor Services Limited	8	
North Western Road Car Co. Ltd.		16
Southern National Omnibus Co. Ltd.		4
Western National Omnibus Co. Ltd.		4
United Automobile Services Limited		14
United Counties Omnibus Co. Ltd.		4
Westcliff-on-Sea Motor Services Limited	5	
†West Yorkshire Road Car Co. Ltd.		19
Totals	20	80
<i>Scottish—</i>		
Aberdeen Corporation Transport	6	
W. Alexander & Sons Ltd.	5	
Central S.M.T. Co. Ltd.	5	
Dundee Corporation Transport	5	
Edinburgh City Transport	2	
Glasgow Corporation Transport	39	
Greig's Bus Services ((Inverness)	1	
Paisley & District Omnibus Co. (R. L. Young)	3	
Scottish Motor Traction Co. Ltd.	2	
James Sutherland Limited	2	
Western S.M.T. Co. Ltd.	5	
Totals	75	0
Grand Totals	387	80

* Including vehicles of the Halifax Joint Committee (Halifax Corporation, L.M.S.R., and L.N.E.R.); the L.M.S.R. & Huddersfield Joint Omnibus Committee; and the Sheffield Joint Committee (Sheffield Corporation, L.M.S.R. and L.N.E.R.)

† Including 2 from York—West Yorkshire Joint Committee

Overseas Notes

The Pan-American Highway

The Pan-American Highway is steadily approaching completion. The Laredo—Mexico City section is stated to have brought great benefits to Mexico already. The links still remaining to be constructed, and the most difficult, are the gaps between Costa Rica and Panama, and from Panama to Bogotá through swamp and jungle country. If the countries concerned show sufficient interest, it is contended that the road could be completed within two or three years.

Peruvian Road Development

A new road, said to be the highest in the South American continent, has recently been constructed by a mining company between Trujillo and Quiruvilca, at an altitude of 12,000 ft. It is a metalled road, 84 miles long. A highway has also been



One of the long-distance motorbuses of the Compagnia Italiana Trasporti Africa Orientale placed in service at Mogadiscio in 1939. (See page 449)

opened between Cuzco and La Raya, and the Peruvian section of the Pan-American Highway is nearing completion. Of the 12,000 miles of roads in Peru, about 1,140 have been macadamised and about 60 concreted. Motor lorries are used on country roads rather than light cars.

New Boston Subway

A new Boston subway, under Huntington Avenue in the Back Bay section of the Hub, was officially opened to traffic on February 16. The subway, extending approximately one mile south-west of Copley Square, has removed all surface cars between the Boston Opera House and Arlington Street and saves from 10 to 20 min. a round trip between Park Street and Opera Place. The tracks were laid in separate tubes and an underpass for vehicular traffic was provided at Symphony Hall at the inter-section of Massachusetts and Huntington Avenues. Approximately 2,800 men completed the structure in three years without a fatal accident. The work, which cost \$7,125,937, was carried out by the engineers of the Boston Transit Department for the Boston Elevated Railway.

Through Rail and Road Booking in India

The B.B. & C.I.R. has concluded an agreement with the Gwalior & Northern India Transport Company for co-ordinated road-rail services through a large part of the Central India Agency and certain adjoining territories. This arrangement, it is felt, should have far-reaching effects. Although this is not an entirely new departure, the new agreement goes very much further than the arrangements at Ajmer for the Pushkar out-agency or the popular all-in rail, hotel, and bus scheme at Mount Abu. The present scheme provides not only for a number of feeder services, but for co-operative services on parallel routes, thus paving the way to a closer link between railways and other transport interests. The arrangement is

for through booking in each direction from stations on the B.B. & C.I.R. and connected railways to out-agencies situated on nine separate road services, and is for passengers and their luggage and for the through booking of parcels and goods to stations throughout India. In addition, passengers have the advantage of being permitted to travel by alternative routes. The scheme came into operation in July last.

New Vehicle Tunnel at Mobile, Alabama

A 3,400-ft. vehicle tunnel under the mouth of the Mobile River at Mobile, Alabama, was opened to traffic on February 20. Originally, the tunnel was scheduled to be opened last July, but bad ground under the Mobile waterfront delayed its completion. It cuts off $7\frac{1}{4}$ miles of distance on the route into Mobile from the east. The tunnel is made up in large part of circular steel and reinforced-concrete sections built on dry land and sunk in a trench dredged across the river bottom. Approaches are of rectangular steel-bent construction built in open cut. A single roadway, 21 ft. wide, provides for one lane of traffic in each direction. The tunnel was built by the city of Mobile at a cost originally estimated at \$4,000,000 made up of a Government grant and a loan. It is to be operated as a toll road.

Dublin United Tramways

The name of the Dublin United Tramways Co. (1896) Ltd. is being changed to the Dublin United Transport Co. Ltd. A resolution to this effect was passed on March 25, and is to come before a meeting on April 22 for confirmation.

The Nelson Pillar to Howth tram service was withdrawn on March 30. In connection with the discontinuance

of this service, the Clontarf & Hill of Howth Tramroad Company formally agreed on January 27 to accept £42,000 from the D.U.T., and to abandon its undertaking.

Proposed Suspension Bridge over Seine Estuary

According to a Reuters message from Vichy, dated March 18, quoting the official French news agency, the estuary of the Seine is to be spanned by a suspension bridge having a central span of about 2,000 ft. and with a clear headway of 174 ft. above high water level. The supporting pylons will be some 390 ft. in height, and the whole bridge will be over a mile in length. This new bridge will replace a ferry nearby at Tancarville, the lowest existing bridge over the Seine being at Rouen.

Asuncion Tramways

A new company, entitled the Sociedad Anonima Paraguaya de Transportes, was formed just over two years ago to carry on passenger transport in Asuncion, Paraguay, replacing in this field the Compania Americana de Luz y Traccion (C.A.L.T.), which on December 12, 1938, separated its electric tramway services from its light and power business. According to the 1938 report of the latter company, it was operating some 48 km. (30 miles) of tramway route in the city, with a branch line to the nearby town of San Lorenzo. During 1938 the company transported 6,996,322 passengers and operated a car mileage of 1,499,065 km. Equipment owned included 41 motor coaches, 7 electric goods vehicles, and various trailers. On January 1, 1939, the new company began to work the system, and during that year placed in operation 10 buses. The purchasing official is Mr. Juan Carosio, President of the Compania Americana de Luz y Traccion S.A., and an official of the Compania Italo-Argentina de Electricidad of Buenos Aires.

SIGNALLING IN ITALY

Hydraulic power signalling has been extensively used for many years, but electric apparatus is now being standardised

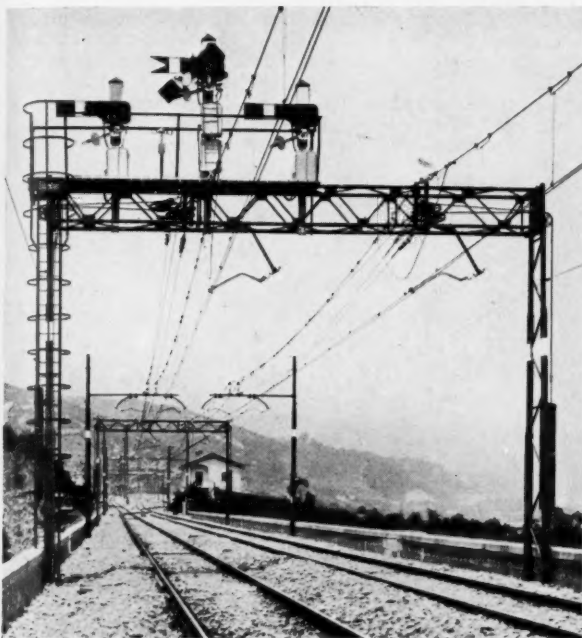
THE first railway in Italy was opened between Naples and Portici in 1839, but the disunity then reigning between the various Italian States did much to retard the development of the new method of transport. The need of signalling and interlocking was slow in making itself felt, and not until 1865 does some attempt appear to have been made to pay serious attention to the problem, on the occasion of the setting-up in Florence of the joint station serving the lines of the Upper Italy Railway and the Roman Railway. The first attempts at interlocking, both there and at a few other places where the traffic was heavy

with 140 levers, opened in 1887 and removed in 1933. The biggest layout controlled by frames of this type was that at Alessandria, opened in 1886. Bianchi recognised the need for staff trained in signal work and organised a special department for it, with offices and shops at Milan. He was associated with Cardani, the designer of a type of block apparatus later widely used, derived from that of Hodgson, supplied from England, and Boschetti, the author of a standard work, long consulted in Italy, on signalling apparatus. British practice was followed for a long time in matters of detail; for instance two-position lower quadrant semaphores, with single wires, were adopted, with rod operation for points. Stop and distant signals were mounted, however, on one spindle (see illustration), and the yellow light was introduced very early. A certain number of disc type signals were also installed, but are now seldom used for running movements. The bracket type signal eventually found favour at junctions, and splitting distant signals are now the rule. Left-hand running is standard.

In 1888 the Saxby duplex tappet frame made its appearance but, owing to the wide use made of hydraulic power working, it did not supersede the rocker type to any great extent. In 1914, however, a simplified rocker action frame with tappet type locking, resembling the Midland Railway pattern frame, was introduced, and channel type point rod-ding began to replace tubular. With the absorption of the Austrian lines, gained by Italy in the 1914 war, 2,000 levers of double-wire apparatus were taken over. Before that, it had been used only at a very few places in Italy, chiefly on the line just south of the Simplon tunnel. Italian engineers then designed their own double-wire equipment and had installed some 1,700 levers by 1934. The peak of the earlier Saxby type signalling was reached in 1925, with 3,000 levers in use.

The Hydraulic System

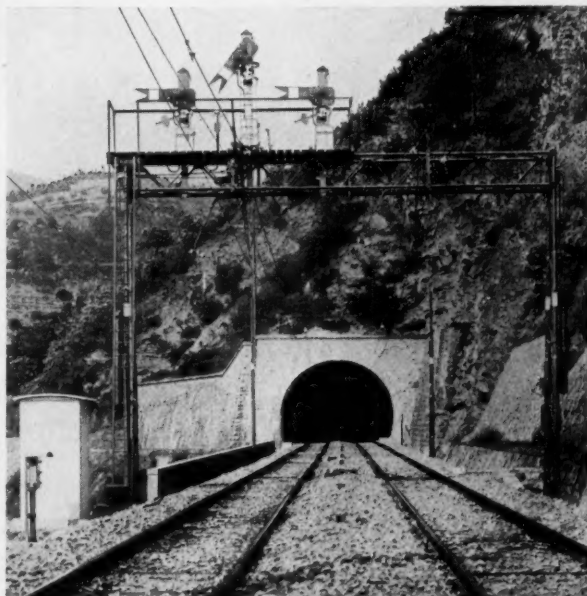
In 1883, Bianchi was led to consider what arrangements to recommend for signalling long crossing loops, which it was



Three-route splitting home signals mounted on overhead transmission gantry. Behind the centre home signal is the distant repeating the starting at the far end of the station; a yellow light is shown with the two arms in these positions

at times, were apparently limited to the local locking of points on the ground by detectors in the signal transmissions. In 1874, however, two signal boxes of 38 and 22 levers at Genoa station were equipped by the English firm of Saxby & Farmer, whose works were then at Kilburn. Soon after others were similarly equipped, such as at Libreria junction on the Milan—Rho line. An engineer named Gondolo, who had lived a great deal in England, had conducted the negotiations with Saxby & Farmer and interested himself in the installation and maintenance work.

Much difficulty at first arose with maintenance, however, due to want of experience, and eventually, in 1880, the work was placed in charge of Riccardo Bianchi. This remarkable man, who eventually became General Manager of the Italian State Railways, and died in 1936 at an advanced age, exerted a great influence on the course of development of Italian signalling, as will presently appear. He was immediately occupied with the erection of further examples of the Saxby rocker type frames, which attained considerable vogue in Italy, the largest ever installed being that at Mortara,



Splitting distant signals for three home signals: they also are mounted on a contact wire supporting gantry

desired to work from a central point if possible. He had served an apprenticeship with the English marine engineers, Penn, at Greenwich, and, being familiar with hydraulic machinery, thought that it might be successfully applied to signal work. This had been tried by a German signal firm, Schnabel & Henning, at Vienna in 1873, but the idea was new to Bianchi. With the help of G. Servettaz, of Savona, agent for the crane engineers, Tannet-Walker & Company, he constructed the first 10-lever hydraulic frame, with signal and point movements, and installed it at Abbiategrasso station on the Italian Mediterranean Railway in 1886. Points situated 410 yd. from the station building frequently had to be operated to deal with the heavy traffic of the Milan—Genoa line. After a year's trial a committee was appointed to keep the installation under special observation for three months, and, out of 7,032 movements only one was not correctly completed. This successful trial resulted in a decision to adopt the hydraulic system instead of the mechanical for general use, and many entire sections of line were equipped with it, and also some large signal boxes, including one at Naples of 175 levers, in 1903. Numerous improvements were made to the details and the apparatus reached a high stage of perfection. It was, however, very little used outside Italy. The later installations had the levers in two tiers, as in the Crewe system on the L.N.W.R., and in some the working was mixed, the signals being operated and the points detected electrically, the operation of the points, however, remaining hydraulic. The view has been expressed in Italy that, notwithstanding the development of electric equipment, the hydraulic system is likely to retain a certain measure of favour for some types of wayside station, as the necessary power can be accumulated by hand pumping during quiet intervals and the mechanisms are very simple. In 1934, there were just over 13,460 hydraulic levers in service, a remarkable total.

Block working has generally been of the absolute type with the Cardani one-wire lock-and-block instruments. Recently an improved type of instrument has been introduced, as described in *THE RAILWAY GAZETTE* of July 19, 1940, page 63. On unimportant lines worked by telegraphic message or permissively, the ordinary distant signal is replaced by the so-called "stop signal of the 2nd category," that is, an outer signal at which a driver stops and then draws forward to bring his train inside it. These signals have

the figure "2" painted on their arms. A certain amount of electric staff working has been used, as on the Valtellina electric line, where it was combined with dead sections in the overhead contact line, making it impossible for a train to leave a crossing station unless a staff for the section concerned had been duly taken out of the corresponding instrument. Some single lines are worked by lock-and-block.

All-Electric Power Signalling

The first all-electric installation did not appear until 1924, when a 70-lever frame was installed at Sestri Levante, to be followed by others, including some at large centres such as Rome and Milan, over 6,000 levers being installed in 10 years. Several types of apparatus, some of foreign origin, were used, in order to obtain varied experience. Later it was decided to standardise the parts of the electric system, to simplify maintenance and renewal work and reduce costs. In 1933, the matter was definitely taken in hand, the work being divided into signal box apparatus, circuits and outdoor equipment. Standard locking frame designs were available in 1935 and used for 30 frames on the Rome—Florence line. The individual lever system has been retained, but in frames of more than 50 levers the handles are in two tiers as in the hydraulic apparatus; mechanical locking is used and unit type construction for all component parts. Much attention has been paid to circuit design, and the precautions taken against false operation are generally much more elaborate than is thought essential in other countries. It is possible to use the standard frame and circuits with lineside equipment of various makes, so facilitating the work of introducing complete standard installations. Although there is some colour-light signalling, power operated semaphores are much favoured and extensively used, even at quite small stations. Standard signal and point machines have been developed, and some new designs of subsidiary apparatus, such as key locking, ground frame and stationmaster's control instruments, have been adopted. Generally speaking, all the new equipment is of neat and pleasing appearance, but for the most part conservative in character. Automatic signalling has been installed on some of the principal routes, with modern a.c. track circuit apparatus, but the great majority of lines carrying heavy traffic are still controlled by lock-and-block. The principles of the latest form of this were set forth in our previous article above cited.



Garratt-hauled passenger train, Kenya & Uganda Railways, crossing the steel arch bridge over the Ripon Falls of the White Nile at Jinja, where the river, issuing from Lake Victoria, has its source

By courtesy of "The African World"

(Photo by Dr. A. G. Schofield)

FLOODS ON THE CEYLON RAILWAY IN 1940

DURING May, 1940, very extensive flooding and wash-aways occurred on the Ceylon Government Railway.

In one area a rainfall of 46.65 in. was recorded on the two days May 16 and 17, and between May 15 and 19 about 40 in. or over were recorded at four different places. Among other lengths that suffered severely were both the double- and single-line sections of the main line.

On the double-line section, one of the most spectacular scenes of damage was at mile 50, ch. 68, where the Rambukkana Oya is crossed just above its confluence with the Maha Oya. The up line is carried over this river by a single through lattice girder span of 100 ft., and the down line by two 55-ft. plate girder spans, the distance between the centre lines of the two tracks being about 50 ft. The flood rose up to the girders and one end of the up line 100-ft. span was precipitated into the river bed, the other end resting on its abutment which was tilted to 60 deg. with the horizontal. The fallen end of the span was also carried against the down

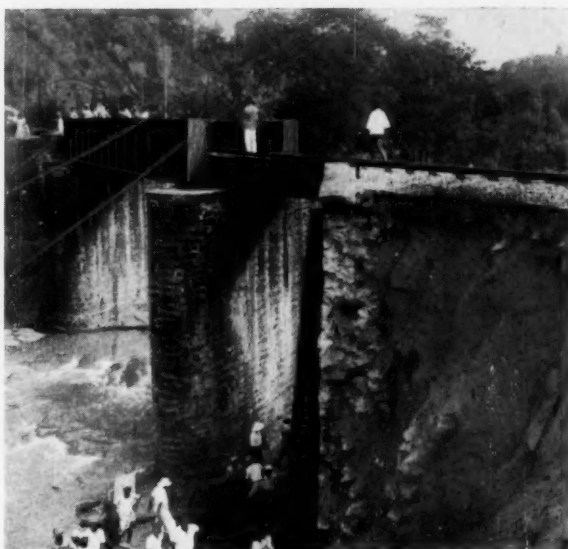
line abutment. The rails, however, despite the fact that the span had been thrown far out of line, still held, but were bearing on the wind bracing of the trusses. The trusses were severely wrenched and twisted and were covered with flotsam, including quite large trees, as may be seen in one of the photographs reproduced below. There were washouts behind both up and down line abutments, but the down-line girders were not displaced nor damaged, though the track was thrown out of line and rested at an angle of about 40 deg. on the girders on one side.

On the single-line section of the main line, a 50-ft.-high bridge at mile 69 ch. 76 had a wing wall washed away and an abutment seriously scoured. As may be seen in another of our illustrations, the track was left resting on the top of an almost vertical unprotected earth face nearly 40 ft. high.

The Kelani Valley line also suffered severely and few districts escaped damage in the form of breached embankments, wrecked culverts, cutting slips, and damage to some bridges.



Main line double-track bridge over the Rambukkana Oya, mile 50, ch. 68. Left: down line after replacement of track on 2×55 -ft. girder spans and single 100-ft. through up-line span in river hard up against down-line abutment. Right: up-line span covered with flotsam after fall of floods



Main line single-track bridge at mile 69, ch. 76, 50 ft. high. Left: showing vertical face to embankment left by collapsed wing wall, and (right): repairs to undercut abutment in progress

British Railways and the War—66

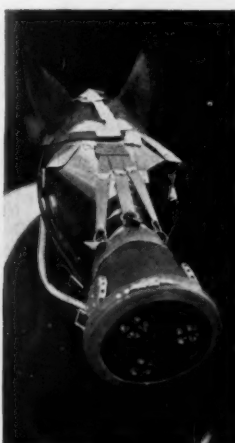


Above: Members of the Southern Railway unit of the Home Guard on duty at the entrance to one of the company's emergency control centres which have been established in deep narrow dugouts. The interior of one of these was illustrated at page 330 of our March 21 issue

Right: Porters at work in their civilian duty respirators at Southend, L.M.S.R., during a war gas practice in the town on March 29



Below: Three views taken at a demonstration arranged by the National A.R.P. Animals Committee in London on March 5 showing the use of two types of respirator for horses. (See page 458)



RAILWAY NEWS SECTION

PERSONAL

L.M.S.R. APPOINTMENTS

Mr. F. C. O'Connor, Stationmaster, Preston, to be Stationmaster, Manchester (Victoria); also in charge of Manchester (Exchange and Salford, *vice* J. G. Hopwood, retiring.

Mr. T. Lomarth, Stationmaster, Blackpool (Central), to be Stationmaster, Preston.

Mr. F. J. Boothroyd, Head Office Inspector (Staff), Staff Section, C.C. & C.O.M.O., Manchester, to be Stationmaster, Blackpool (Central).

Mr. H. Worsley, Assistant Divisional Controller (Freight Services), Office of Divisional Superintendent of Operation, Crewe, to be District Controller, Bletchley, *vice* J. Hampson, retiring.

Mr. R. Dowie, Chief & Accounts Clerk, Paisley, to be Goods Agent, Rutherglen, *vice* J. Houston, promoted.

Mr. R. E. Lyon, Chief Inspector, Police Department, Euston, to be Divisional Superintendent, Police Department, Euston, *vice* O. E. Steed, deceased.

Mr. F. W. Cotton, Deputy Resident Storekeeper, Wolverton, to be Resident Storekeeper, Wolverton, *vice* T. Dickens, retired.

L.N.E.R. APPOINTMENTS

Mr. G. Reeves, Staff Assistant to the Chief Accountant, L.N.E.R., has been appointed Divisional Accountant (Coaching) in succession to Mr. G. N. Rhodes, who will retire from the company's service in June next.

Mr. W. A. Wright has been appointed City Manager's Accountant as from April 1.

Mr. J. E. Fisher, Stationmaster, Goodmayes, has been appointed Acting Yardmaster, Whitemoor.

INDIAN RAILWAY STAFF CHANGES

Mr. K. C. Srinivasan has been appointed Deputy Chief Accounts Officer, G.I.P.R., from last December.

Rai Bahadur P. L. Dhawan, C.I.E., Chief Engineer, State Railways, has been permitted to retire from Government service as from January 2.

Mr. N. K. Sen has been appointed to officiate as Deputy Chief Accounts Officer, E.I.R., as from December 2 last.

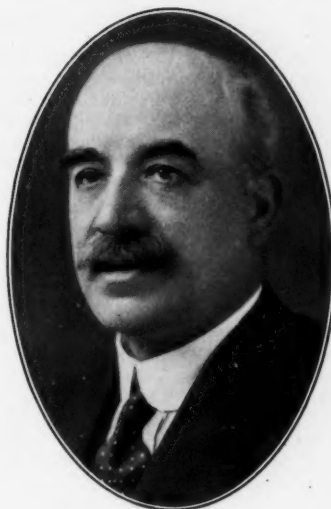
Mr. E. H. N. Lowther has been confirmed as a Divisional Superintendent on the E.I.R.

Mr. C. F. Gilbert, Divisional Superintendent, E.I.R., has been permitted to retire from Government service as from October 25 last.

Mr. T. C. Hales, V.D., Divisional Superintendent, N.W.R., has been permitted to retire from Government service as from December 14 last.

Mr. P. V. D. Lockwood, Advertising Manager, New York Central System, has retired after 53 years' service.

Mr. G. N. Rhodes, Divisional Accountant, Southern Area, L.N.E.R., who, as recorded in the first column, has retired, joined the Manchester, Sheffield & Lincolnshire Railway (afterwards the Great Central Railway) in 1891 in the Audit office at Manchester. He was later transferred to the Chief Accountant's Office and in 1905 was placed in charge of the Joint Lines & Pension Fund Accounts Section. In 1910 he went to the Expenditure office and became Chief Clerk of that office in 1913, dealing with the departmental expenditure of the company. After the



Mr. G. N. Rhodes

Divisional Accountant, Southern Area, London & North Eastern Railway, 1932-1941

outbreak of the 1914-1919 war, Mr. Rhodes acted as investigator of railway companies' accounts on behalf of the Government. After the railway amalgamation he was Expenditure Assistant to the Chief Accountant, and from 1929, Chief Bookkeeper. In June, 1932, Mr. Rhodes was appointed Divisional Accountant, Southern Area. He has been a representative for the company on the Sheffield Omnibus Services Joint Committee and the Halifax Joint Omnibus Committee.

Mr. J. S. H. Grant, Secretary, Railway Commission of Southern Rhodesia, Northern Rhodesia, and the Bechuanaland Protectorate, has been appointed acting Chairman of the Commission in place of Colonel G. A. P. Maxwell, C.M.G., D.S.O., M.V.O., M.C., who has been called up for active service. Mr. Grant will continue to act as a member of the Commission nominated by the Government of Northern Rhodesia during the temporary absence of Mr. F. H. Lowe, but will only exercise the voting powers of acting chairman.

THE LATE SIR NIGEL GRESLEY

FUNERAL AND MEMORIAL SERVICE

The funeral of Sir Nigel Gresley took place on Wednesday, April 9, at Netherseale Churchyard, Burton-on-Trent, the Rev. W. T. Beale officiating.

In addition to the family mourners, there were present:—

L.N.E.R.—Sir Ronald Matthews (Chairman), Mr. A. K. McCosh and Mr. G. Kitson (Directors), Mr. C. H. Newton (Chief General Manager), Messrs. E. Thompson, C. J. Selway, A. H. Peppercorn (also representing Mr. C. M. Jenkin Jones and Mr. G. Mills), H. W. H. Richards, R. A. Thom, D. R. Edge, H. Harper, B. Hardy-Smith, K. S. Robertson, W. H. Brown, J. F. Harrison.

L.M.S.R.—Mr. W. A. Stanier (also representing Institution of Mechanical Engineers), Mr. G. Ivatt, Colonel Watkins (also representing Colonel Rudyard).

Mr. A. J. Boyd (Metropolitan Cammell Carriage & Wagon Co. Ltd.), Mr. T. L. Taylor (Taylor Bros. & Co. Ltd.), Mr. J. Spencer (George Spencer Moulton & Co. Ltd.).

At the same hour a memorial service was held at Chelsea Old Church. The Rev. R. E. Sadleir who officiated, explained that the reason why this church was chosen for the service was that Sir Nigel Gresley had some weeks ago attended a wedding there, and when he was being shown over the church after that ceremony, he had expressed the opinion that it was the most interesting to him of any church in London.

L.N.E.R. representatives at the memorial service included: Mr. W. H. Johnson, Assistant Secretary, representing the Chairman, Directors, and Secretary; the Hon. Rupert Beckett, Director; Sir Ralph Wedgwood, late Chief General Manager; Mr. V. M. Barrington Ward, Traffic Superintendent (Operating), Southern Area; Mr. W. H. Hanscombe, Chief Assistant Solicitor (also representing Mr. I. Buchanan Pritchard, Chief Legal Adviser & Solicitor); Mr. G. Sutherland, Chief Accountant; Mr. R. J. M. Inglis, Way & Works Engineer, Southern Area; Mr. F. W. Carr, Mechanical Engineer, Southern Area, Eastern section; Mr. C. H. M. Elwell, Locomotive Running Superintendent, Southern Area, Eastern section; Mr. G. A. Musgrave, Locomotive Running Superintendent, Southern Area, Western section; Mr. M. D. Robinson, District Locomotive Superintendent, Neasden.

L.M.S.R. representatives included: Mr. R. A. Riddles, Mechanical & Electrical Engineer (Scotland) at present Deputy Director General for Royal Engineer Equipment; and Mr. J. Shearman, Road Motor Engineer.

Southern Railway representatives included: Mr. E. J. Missenden, General Manager; Mr. O. V. Bulleid, Chief Mechanical Engineer; and Mr. Alfred Raworth, Chief Electrical Engineer.

Amongst others present were: Sir Alan Mount, Chief Inspecting Officer of Railways, also representing the Minister of Transport; Sir John Thornycroft; Mr. Leslie Boyce, M.P., representing the railway group in the House of Commons and the Gloucester Railway Carriage & Wagon Co. Ltd.; Brigadier-General F. D. Hammond; Mr. J. S. Tritton (Rendel, Palmer & Tritton); Mr. C. P. Sandberg; Mr. H. C. Walton, Railway Benevolent Institution; Messrs. James Clayton, F. R. Collins, and J. Vidal, and Major H. A. Harrison, Institution of Locomotive Engineers; Mr. W. H. Gaunt, President, Mansion House Association on Transport; Colonel John Gretton, M.P.; Mr. H. T. Rice, representing the Chairman and Directors, English Electric Co. Ltd.; Mr. N. V. Raven (representing Mr. P. S. Turner, Metropolitan-Vickers Electrical Co. Ltd.); Mr. R. Gresham, Gresham & Craven Limited, Manchester; Mr. A. Holden, Cravens

Railway Carriage & Wagon Co. Ltd.; Mr. A. J. D. Kitson; Mr. L. J. Le Clair, Westinghouse Brake & Signal Co. Ltd.; Mr. A. S. Davidson (representing Mr. C. W. C. Hine); Mr. A. H. Jackson, General Electric Co. Ltd.; Mr. R. T. Glascombe, George Spencer Moulton & Co. Ltd.; Mr. Henry W. Lee, Managing Director, and Mr. N. H. Morris, Director, J. Stone & Co. Ltd.; Mr. Anthony Durrant, Railway Department, C. C. Wakefield & Co. Ltd.; Mr. A. J. Marsh, Vacuum Brake Co. Ltd.; Mr. J. E. Calverley, Traction Department, English Electric Co. Ltd.; Mr. J. A. Kay, Editor, *THE RAILWAY GAZETTE*; Mr. Charles S. Lake; Mr. Loughnan Pendred, Editor in Chief, *The Engineer*, Mr. J. F. Sparke, Mr. A. L. C. Purrr, Mr. F. Wintour.

Mr. Percy Cambridge, Parcel Agent, Paddington, Great Western Railway, who, as recorded in our April 4 issue, has been appointed an Assistant Divisional Superintendent, London division,



Wakefields]

[London

Mr. P. Cambridge

Appointed an Assistant Divisional Superintendent, London, Great Western Railway

entered railway service in 1901 and gained experience in various capacities at Basingstoke, Hungerford, Marlborough, and Reading. In 1905 he was appointed a staff clerk in the Divisional Superintendent's office at Paddington, and in 1909 relief clerk for the London division. He joined the Forces at the close of 1915 and on his return to Paddington resumed relief clerk's duty in the London division in March, 1919. Mr. Cambridge graduated in this position, and was appointed Senior Relief Clerk in January, 1922. He was appointed Parcel Agent, Paddington, in May, 1936.

Mr. Henry George Drury, who was Superintendent of the Line, Great Eastern Railway, from 1897 to 1904, left estate valued at £27,918. Mr. Drury died on January 28 in his 102nd year. We published a portrait and biographical note in our February 7 issue.

Mr. W. C. H. Penelrick, who, as recorded in our April 11 issue, has been appointed Temporary Freight Train Assistant to the Divisional Superintendent at Newport, Great Western

Railway, joined the service in the Divisional Superintendent's office at Pontypool Road in January, 1900. He held various positions in that office until 1913, when he was appointed assistant timebill clerk. In September, 1917, Mr. Penelrick was appointed Principal Goods Train Clerk in the Divisional Superintendent's office and he remained there until July, 1932, when he became Yardmaster at Rogerstone. In September, 1936, Mr. Penelrick was appointed Station & Yardmaster at Pontypool Road, the position he now leaves.

Mr. E. F. Bone, Assistant to the Docks & Marine Manager, Southampton, Southern Railway, is retiring on May 1. He is being succeeded by Mr. E. Burrow, at present Commercial Superintendent.

We regret to record the death at Tucson, Arizona, U.S.A., at the age of 73, of Mr. Frank Rhea, at one time one of the best-known American signal engineers. In 1905, when on the Pennsylvania Railroad, he collaborated with Mr. A. H. Rudd, the Signal Engineer, in a report on the standardisation of signalling, aspects and practice, which led to the adoption of speed signalling by that line and later by others. The details of this report were not made public, however, until recent years. Mr. Rhea left the signalling profession some years ago and entered one of the American Civil Service Departments.

Mr. Edward Thomas Lawrence, formerly Secretary of the Barry Railway, whose death we recorded in our February 7 issue, has left estate valued at £3,045.

Mr. Neville Rollason, a Director of the United Steel Cos. Ltd., has been appointed Managing Director in succession to the late Mr. Charles J. Walsh, whose death we recorded in our March 7 issue.

Mr. Richard Summers and Mr. Alan Macdiarmid have joined the board.

We regret to record the death in Buenos Aires on January 28, of Mr. William Charles McClew, who was actively associated with railway construction in Argentina for about half a century. Mr. McClew was a native of Wigtownshire, Scotland, and served his apprenticeship with the Caledonian Railway. He went to Argentina in 1887, and was for some years Chief Engineer with the firm of Jackson, contractors in charge of the construction of the Dean Funes-Chilecito branch of the Argentine State Railways, as well as reconstruction work in the Provinces of Salta and Jujuy. He subsequently joined the Buenos Ayres & Pacific Railway, being engaged on various relaying schemes, the construction of the Saenz Peña-Luro and Chacabuco-Germania branches, and a number of important bridges. Later he transferred to the Central Argentine Railway, where he was employed in the office of the

Chief Engineer, until his retirement a few years ago on pension.

Mr. F. G. Gray, who, as recorded in our April 11 issue, has been appointed Chief Clerk of the Road Transport Department, Great Western Railway, entered railway service in the Goods Department at Paddington in 1903. After periods of relief duty in various sections of the Chief Goods Manager's office and in the then Continental Department, he was transferred to the cartage section of the Chief Goods Manager's office in 1913. In 1915 he enlisted in the Royal Artillery and after service in Egypt returned, in 1919, to his previous position. Mr. Gray was transferred to the Road Transport

**Mr. F. G. Gray**

Appointed Chief Clerk, Road Transport Department, Great Western Railway

Department on its formation in 1922, and has been connected with the staff work of the department since 1923. For the past eight years he has been head of the Staff & New Works section.

Mr. M. C. Hives has been appointed Sales Manager of the Fischer Bearings Co. Ltd. Mr. Hives has been connected with the Fischer organisation for the past seven years.

We regret to record the death of Mr. Francis Edwin Brown, Chairman of David Brown & Sons (Huddersfield) Ltd. and its associated companies. Mr. Brown, who was 67 years of age, joined the company (which was founded by his father in 1860) as an apprentice in January, 1889. The business as it is today was originated by Mr. F. E. Brown. He was a pioneer in the development of machine-cut gearing, which was a logical outcome of the first machine the company used for cutting teeth in the wooden gear patterns in which, at that time, it specialised. The wide use now made of worm gearing is due largely to Mr. Brown's initiative. Experiments on the use of correct

materials and the parallel development of special machinery gave such successful results that Mr. Brown was able to use worm gearing for the rear-axle drives of London buses. Since then worm gearing has been accepted for all types of industrial and transport transmissions. During Mr. Brown's period of control his company has acquired the Keighley Gear Company (then R. P. Jackson & Co. Ltd.) and the Salford Rolling Mills. On the completion of fifty years of service with the company a presentation was made to Mr. Brown by the employees. He was President of the Huddersfield Engineering Employers' Association in 1921 and 1922, and was the first Chairman of the Huddersfield branch of the Foreman's Mutual Benefit Society.

We regret to record the death on February 22 of Mr. Harry Jones, M.Inst.C.E., Chief Engineer of the Great Eastern Railway from 1910 to 1914. Mr. Jones, who was 89 years of age, began work in 1867 under the late Mr. Edward Wilson, of Westminster, Consulting & Constructing Engineer for the Great Western, the Great Eastern, and the Metropolitan Railways. During his pupilage, Mr. Jones supervised the construction of the Liverpool Street extension. Later he became Assistant Engineer on construction of lines between Pontypool, Caerleon, and Newport, and between Banbury and Cheltenham. After this he was appointed Resident Engineer in Charge, under the late Mr. Edward Wilson, of the construction of lines from Ipswich to Felixstowe, Netherton to Halesowen, and Bewdley to Kidderminster. He also completed the G.E.R. extension from Wroxham to County School. Subsequently he acted as Resident Engineer on the new railways between Cambridge and Mildenhall, and the lines from Shenfield to Southend and Woodham Ferris. In 1889 Mr. Jones was made District Engineer in charge of the Eastern Division. He was appointed Chief Engineer in February, 1910, and retired in November, 1914.

Sir Miecislav de Rutkowski, a civil engineer, and for many years honorary attaché of the Polish Embassy in London, has died in London, aged 87. As a Government Inspector of Railways in Russia, he was sent on many missions to study the railways of other countries, and was for a time financial agent of Russia in the United States and later in England. After the Treaty of Versailles he was appointed financial adviser to the Polish Government in London and retired in 1924. He was created K.C.M.G. in 1916.

We regret to record the death in Buenos Aires on January 16, of Mr. William Norman Williamson, Chief Engineer, Buenos Ayres & Pacific Railway. He was born near Buenos Aires in 1878, and was trained in the Chief Engineer's Department of the

Buenos Ayres Great Southern Railway which he joined in 1893. From 1896 to 1899 he was engaged on survey and construction work, but in 1900 was appointed junior and later senior Assistant Engineer on the Eastern and Western Divisions. In 1906 he entered the service of the B.A.P. as Sectional Engineer at Laboulaye, and occupied this position until 1912, when he was appointed Assistant to the Chief Engineer in charge of maintenance. On several occasions he acted as Chief Engineer during the absence of that official on European leave, and on the retirement of the then Chief Engineer, Mr. F. O. Stevens, in March, 1932, Mr. Williamson was appointed to succeed him in this position, which he occupied until his death.

Staff and Labour Matters

Road Passenger Transport Wages

The Industrial Court has issued its award (No. 1,795) on the claims presented to it for an increase in the war wage paid to employees engaged in the Road Passenger Transport Industry. The parties, representing the employees' and the employers' sides of the National Joint Industrial Council for the industry, were heard in London on March 25, 26 and 27. The terms of reference were as follow:—

"The court is asked to decide a difference that has arisen between the two sides of the National Joint Industrial Council for the Road Passenger Transport Industry:

The employees' side contends that:

- (1) in the present circumstances an advance of 10s. a week, additional to the 7s. a week war wage already received by adult employees, is justified to all male employees of age 18 years and over;
- (2) women employees should participate in the advance in conformity with decision No. 1755 of the Industrial Court dated April 19, 1940, which laid down the rate of pay for women conductors;
- (3) the advance should be regarded as a "war wage" calculated on the hourly rate of pay, as in the case of the previous war advance of 7s. a week, which was given in two stages;
- (4) there should be proportionate increases to those below the age of 18.

This paragraph was added by agreement at the hearing.

The employers' side oppose the employees' representations and contends that:

- (1) an advance in the "war wage" is not justified at the present time;
- (2) the industry cannot afford the cost of the increase requested;
- (3) if an award be awarded by the Court, it should not be a uniform increase to all grades of employee, but should differentiate between the various grades and also between males and females;
- (4) any award in respect of adult male employees should apply to those of age 21 years and over;
- (5) in view of the special circumstances of certain undertakings adversely affected by war conditions, any award by the Court should contain an "appeals clause" under which a local authority, joint committee, or joint board might appeal against application of the award, in whole or in part, to its undertaking because of local circumstances; it has been customary for such a clause to be included in settlements within the national council and the employers' side desires that this practice be continued in respect of any award by the court in the present reference.

The National Joint Industrial Council for the Road Passenger Transport Industry represents on the employers' side 91 out of 95 local authorities operating passenger transport undertakings, that is, tramways, trolley-buses, and buses. The undertakings concerned serve all the populous centres of the country, outside the London area. There are no company operators in membership. The total number of employees in the undertakings controlled by the national council and concerned in the application is 61,291.

Two war wage advances have previously been made by agreement on the council, namely, 4s. a week to adult male employees as from the first full pay period following December 7, 1939, and 7s. a week (inclusive of the previous 4s.) to adult male employees as from the first full pay period following June 4, 1940. Advances have been given to female employees of amounts in conformity with the provisions of Industrial Court Award No. 1755. Smaller advances have been agreed for male employees under 21 years of age.

The case of the employees' side for the war wage claimed was made on a two-fold basis—namely, the increase in the strain under which road passenger work has now to be carried on and the rise in the cost of living. The claim was opposed by the employers' side on the grounds that it was not justified at the present time or on a comparison with the war advances given in other industries and that the transport industry cannot afford to pay the increase asked for.

The court awards in addition to the present war wages—

- (1) A further war wage of 4s. a week to all male employees concerned of 21 years of age and over.
- (2) Women employees shall participate in this advance in conformity with decision No. 1755 of the Industrial Court dated April 19, 1940.
- (3) Male employees of 18 and under 21 years of age shall receive a further war wage of 90 per cent. of 4s. a week.
- (4) Male employees under 18 years of age shall receive a further war wage of 2s. a week.
- (5) The advances awarded shall be calculated on the hourly rate of pay, as in the case of the previous war wage of 7s. a week.

The parties being in agreement in regard to an "appeals clause," the court further awards that:—

- (a) In conformity with previous practice, the wages committee of the National Joint Industrial Council for the Road Passenger Transport Industry shall deal with appeals from transport undertakings which:
 - (i) Contend that they are unable to meet, wholly or in part, the above award.
 - (ii) Have recently granted an increase in wages to their employees.
- (b) In the case of such appeals, no changes in wages shall operate until the wages committee's decision has been ratified by the National Council.
- (c) Appeals shall be lodged with the joint secretaries of the National Council within six weeks of the date of this award.
- (d) The wages committee shall consider any appeals made to it and shall, within fourteen days of receipt of an appeal, report thereon to the National Council.

The award operates from the beginning of the first pay period following April 4.

TRANSPORT SERVICES AND THE WAR—86

War casualties—Railway-owned canal charges increased—Respirators for horses—Further stations in coastal area ban—Transport in France and the Low Countries—South American air lines

The approximate numbers of casualties from the beginning of the war to the present date were given by Mr. C. Attlee, Lord Privy Seal, in a written reply in the House of Commons on April 9 as follow :—

Civilians	...	...	...	...	...	...	...	Killed 29,856	Wounded 40,897
	...	...	...	...	...	...	...	Killed and missing 37,607	Wounded 25,895
Armed forces	...	...	...	...	...	...	...

The separate figures for men, women, and children civilians were :—

	...	...	...	...	...	...	...	Killed	Injured and detained in hospital
Men	...	...	...	...	...	...	...	13,712	21,811
Women	...	...	...	...	...	...	...	12,112	15,893
Children under 16	...	...	...	...	...	...	...	3,644	3,193
Unclassified	...	...	...	...	...	...	...	388	
Total	...	...	...	...	...	...	...	29,856	40,897

Easter Railway Traffic

In accordance with the decision of the Government as to the arrangements to be observed during the Easter period, the passenger train services on Good Friday were the same as on a normal weekday. The ordinary timetable services were run on Saturday and Easter Sunday. On Easter Monday restricted services were run, in accordance with the arrangements usually operating on Bank Holidays. Special provision was made for the maintenance of train services required for workpeople of factories engaged on urgent production. Workmen's tickets were issued on Good Friday and Easter Monday as on ordinary weekdays.

Good Friday being a working day railway companies delivered goods as usual. The Secretary to the Ministry of Transport previously pointed out that it was important that waste of transport owing to failure of traders to receive goods on delivery should be avoided. He asked that firms who decided to close on Good Friday should make arrangements for the acceptance of goods tendered by railway or other carriers, as otherwise delays in delivery and congestion in goods depots would result.

Railway-Owned Canal Charges Raised

The Minister of Transport on March 25 made the Railway-Owned Canals (Increase of Charges) Order, 1941. This sanctions the raising of charges levied by the railway-owned canals by 16½ per cent. above those in operation on the date of the signing of the Order and has the effect of raising the canal charges by the same percentage as the general level of rates on the main-line railway companies since the beginning of the war.

Paddington Station C.C.S.

Since the outbreak of war nearly 4,400 civilian and 1,000 Service casualties have received treatment at the two Paddington station casualty clearing stations, one of which was formerly the royal waiting room. Service cases attended to by the Great Western Railway first-aid wardens and nurses, all of whom have been recruited from the clerical and uniformed staffs, included troops evacuated from Dunkirk, naval personnel, and German airmen and submarine crews. Most of the civilian injuries treated were received in the blackout.

Civilian Pigeon Post

What is claimed to be the first civilian pigeon post in Great Britain was inaugurated last week, by permission of the Air Ministry and the Home Office, when two pigeons flew from a loft of fifty-eight at Fort Dunlop to Wardington (near Banbury). One of them carried a message on a slip of rice paper from the workers at Fort Dunlop to Sir George Beharrell, Chairman of the Dunlop Rubber Co. Ltd.; the other took "The Battle of Britain," reduced in facsimile to a strip of photographic film 8 in. long. The messages are carried in

bakelite containers 1 in. long. One of these would hold three facsimiles of "The Battle of Britain," each 15,000 words in length. This service, which is as quick as an express train, will be available to and from Fort Dunlop, Coventry, Wardington, and Manchester in the event of disorganisation of other means of communication. All of these centres now have apparatus for reducing messages and for magnifying them to a readable script when received.

Women on the L.N.E.R.

Over 2,500 women are now employed in men's jobs on the L.N.E.R. and the number is increasing daily. They are working as signalwomen, stablewomen, buffet car attendants, goods and passenger porters, booking and enquiry office clerks, van drivers, ticket collectors, and hotel bakers. Many of the women will soon be provided with uniforms. Those for the porters, van drivers, and ticket collectors, will be the standard L.N.E.R. dark navy blue with red lettering and piping. Buffet car attendants will have white overalls. All uniforms will be decorated with the company's lozenge-shaped totem emblem containing the initials L.N.E.R., designed specially by the late Eric Gill.

London Train Service Alterations

Revised Metropolitan Line services which were brought into force on March 31 included through trains *via* King's Cross and the City between Barking and Whitechapel, and between Hammersmith and Uxbridge; and also through trains between the City and the Metropolitan main line. A new Inner Circle timetable was introduced on the same date.

On the Northern Line tube a revised timetable was introduced on February 23 providing through workings between Edgware and Highgate in the north, and Morden in the south, *via* the West End as well as *via* the City.

On the Waterloo & City tube line of the Southern Railway a revised timetable came into force on Tuesday last, April 15, providing a service throughout the day. It will be recalled (see page 258 of our March 7 issue) that a service during peak hours only has been worked since March 3. The line was closed entirely on Easter Monday (April 14).

Respirators for Horses

Considerable prominence was given in the daily Press to a demonstration arranged by the National A.R.P. Animals Committee in London on March 5 on the use of respirators to protect horses against the effects of war gases. We are informed officially, however, that gas respirators for horses are not in commercial production and it is unlikely that large numbers will become available unless there is a public demand for them. If produced in quantity the cost would be in the vicinity of £2 each. There are two types of mask, called respectively Mark 1 (which can be produced commercially), and Mark 2 (which will not be produced for at least another twelve months). The horse respirator is a part two way breathing bag of the humid filter type. The bag proper is composed of a number of layers of impregnated cotton towelling. Two expiratory valves are provided and the gas-tight fit is obtained by means of a sponge rubber fitting band made in four sizes; the respirator weighs 5½ lb. with haversack. It embraces the upper jaw only and the bit is not removed when putting it on. Compared with the charcoal box type respirators, this respirator has a short service life. Some deterioration takes place during wear even when no "gas" is present in the atmosphere. After six hours of continuous use at light exercise, the respirator still affords protection. Replacement in the field will involve a new issue, although certain components can be recovered for use again. It is not suitable for wearing for long periods in hard work because the service time would be seriously reduced by

the greatly increased air flow through the filtering material. Training is necessary to enable the man, impeded by his own mask, to put the respirator on the horse expeditiously, and for the animal to tolerate it. (See pictures on page 454.)

Extension of Coastal Area Ban

The extension to the coastal belt from Brighton to Littlehampton of the ban on visits for the purposes of holiday, recreation, or pleasure, came into force on midnight of March 25 (as announced at page 285 of our March 14 issue). A list of the stations serving the areas subject to the ban has been added to the main list which is displayed at all main railway stations. All the stations affected are, of course, on the Southern Railway as the whole of the Brighton—Littlehampton area is served exclusively by that railway. The stations affected are as follow:—

Aldington halt, Amberley, Angmering, Arundel, Barcombe, Barcombe Mills, Bramber, Brighton, Burgess Hill, Cocksbridge, Durrington-on-Sea, Falmer, Fishergate halt, Ford (Sussex), Glynde, Goring-by-Sea, Ham Bridge halt, Hassocks, Henfield, Holland Road halt, Hove, Isfield, Lancing, Lewes, Littlehampton, London Road (Brighton), Newick & Chailly, Plumpton, Portslade & West Hove, Preston Park (Sussex), Pulborough, Sheffield Park, Shoreham-by-Sea, Southsea & Rodmell halt, Southwick, Steyning, Wivelsfield, and Worthing.

Police and military patrols on roads and at railway stations and bus termini rely to some extent on the addresses shown on National Registration cards, and we understand that persons whose identity cards give the address of a week-end coastal flat have so far experienced little difficulty in visiting the portion of the Sussex coast recently brought within the coastal area ban.

Lines Under Construction in Bulgaria

Work on railways under construction in Bulgaria was being pushed ahead with energy before that country became involved in the present war. Some of the lines under construction are of considerable strategic value, and work on them will, no doubt, be intensified. Standard (4 ft. 8½ in.) gauge sections under construction were: (i) Makotzevo to Sopot, the last link in the new direct route between Sofia

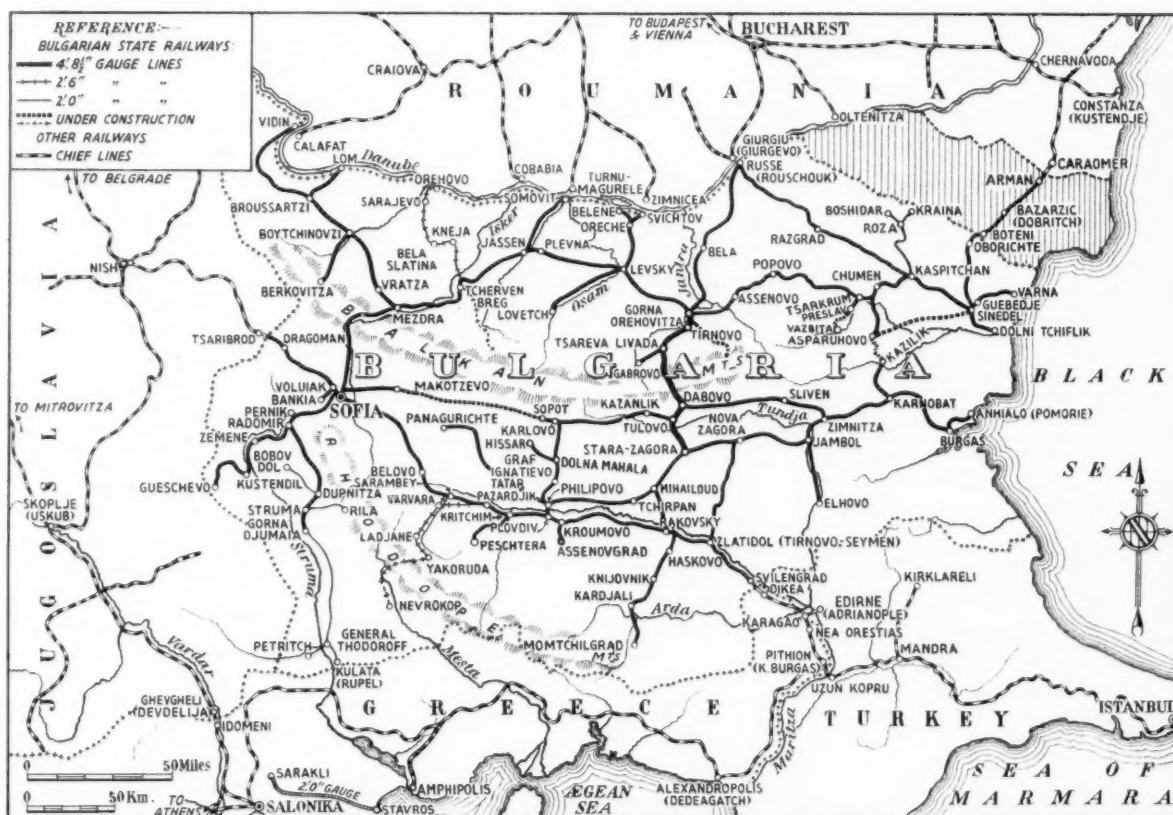
and the Black Sea port of Burgas; (ii) the link between Asparuhovo and Kazilik on the Chumen—Karnobat line, which connects the Varna and Burgas lines near the Black Sea; and (iii) a chord line serving the same purpose, between Asparuhovo and Sinedel junction on the Varna line. Also a new standard gauge line to replace the 2-ft. gauge light railway had been completed between Dupnitza and Gorna Djumaya, in the Struma valley, and further conversion southwards along the Petritch line down the valley was in progress; work is probably held up now by war operations in that district, unless the conversion is being pushed forward by military engineers.

Of less importance was the work on the extension southwards to Vazbita on the standard-gauge Tsar Krüm—Preslav branch of the Varna line. An extension of the 2 ft. 6 in. gauge line from Pazardjik, on the Sofia—Plovdiv main line, to Yakoruda was also in progress from the latter town towards Nevrokop.

By the ceding of the Southern Dobrudja area by Roumania, a length of 67 km. between Boteni and Arman was added to the Bulgarian State Railways system; the Roumanian frontier station is now Caraomer.

The Neutral Route to Central Europe

A traveller recently returned from Geneva to this country records his impressions of the journey from Geneva to Lisbon. There is now a regular bi-weekly service, and the through train starts at 4 p.m. from the Eaux-Vives station in Geneva. It travels *via* Annemasse, and stops at Chambéry long enough for passengers to have dinner there. It then proceeds *via* Grenoble, Valence, Nîmes, and Narbonne to Port Bou, on the Spanish frontier, where it is due at noon the next day. No restaurant car is included in the train, but refreshments can be obtained at the stations *en route*. The passenger noticed nothing abnormal in conditions on the journey, although on the particular occasion a blizzard caused the train to lose a considerable amount of time. A night was



The railways of Bulgaria. (The shaded area was recently ceded by Roumania)

spent in Barcelona, and another in Madrid. At both these places life appeared to be proceeding normally, although in Spain bread was scarce, and potato cake was the substitute. Butter, too, was a rarity, but a sort of jam was used instead. The journeys in Spain were without incident.

Switzerland and the War

Colonel Oscar Frey, of the Swiss General Staff, said in a radio talk on April 8: "We will blow up the Simplon tunnel and we will block the mountain passes and roads leading into Switzerland if our country is ever in danger of being invaded. The only answer to the *Blitzkrieg* is a high morale in the army and in the civil population. We know well that capitulation will not ease our situation. Nothing can be bought by surrender."

Switzerland is taking over German interests in Jugoslavia and Yugoslav interests in Germany.

Transport in Belgium

The Germans have made the whole coast of occupied Belgium into a defence zone, as we have previously noted, and this zone extends about eight miles inland, according to the Free Belgian News Agency. Belgians travelling in this area must carry a special permit. Those living in the area who wish to journey more than three miles from home must obtain a certificate from the local burgomaster, which must be approved by the German Commander at Furnes.

Numbers of barges requisitioned by the German Army have been returned for civilian use on Belgian inland waterways for coal transport, states the Free Belgian News Agency.

Brussels—Antwerp Electric Lines

Through operation on the electrified lines between Brussels (Nord) and Antwerp (Central) has now been resumed, repair work on the demolished bridges at Malines having advanced to the stage where the passage of trains in regular service at reduced speed is again permissible. The train service on this section—as on all lines in the Low Countries—remains drastically reduced.

The Netherlands Railways

The Netherlands Railways have recently made considerable increases in their passenger fares and goods rates. The goods freight rates were increased as from February 10 last; the parcels rate is up by 23 per cent. and for consignments under 66 lb. (30 kg.) even higher rates apply. The freight rate for full wagon loads is increased by an average of 18 per cent. and a minimum of 3 tons for wagon loads has been fixed. Passenger fares were increased on March 1. The lowest increase was 16 per cent. and applies to week-end tickets, weekly seasons, monthly sectional seasons, and "youth tickets." The tariff of the general season ticket is increased by 18 per cent. Passenger and freight conveyance by road motor vehicle has disappeared in Holland as a consequence of the lack of motor fuel and the strict curtailment of the small quantities of motor fuel available for civilian use. This virtual suppression of road motor traffic has proved of advantage to the railways.

French, Belgian, and Dutch Rolling Stock

Vichy Government spokesmen deny that railway wagons which are being built to take the place of those destroyed in the war or surrendered under the Armistice are passing into German hands with the approval of the Vichy authorities. According to recent official statements at Vichy, two-thirds of the rolling stock of the French railways was in what is now occupied territory when the Armistice was signed. Many railway carriages were afterwards sent out of the country by the Germans and have not come back. It is admitted at Vichy, moreover, that other carriages and wagons now being built to take their place are likely to go the same way. Neutral observers say that in the occupied zone the Germans are assembling all the means of transport procurable.

Herr Mahle, General Manager of the German Mahle Company (one of the largest suppliers of light metal parts to the German aircraft industry), writing in the firm's house magazine, *Der Mahle-Bote*, stated recently that French machinery was being transported to German plants and that French,

Belgian, and Dutch goods wagons might be seen at almost every German railway station.

Norwegian Railway Service Curtailment

Night traffic on the Norwegian railways was suspended entirely on and from Monday, March 31, according to the Norwegian Telegraph Agency. Acute shortage of fuel, caused by the German requisitioning of all available supplies, is stated by Reuters to be the probable reason. Persons wearing anti-Quisling badges are said to be excluded from trains, under German orders.

Railway Services in the Balkans

Railway communications in European Turkey from Istanbul to the west remain interrupted.

British, Australian, and Greek sappers are stated to have removed all locomotives and rolling stock and to have blown up railway and road bridges in the Salonika area prior to its evacuation by the Allied Forces.

Since the German occupation of Belgrade on or about April 10, it is stated that rail communications have been re-established between Belgrade and the Danube port of Novi Sad (about 50 miles to the north, on the main line to Budapest), and between Belgrade and Mladé Novac (some 40 miles to the south, on the main line to Nish and Sofia). These services are said to have been inaugurated on April 11.

The Eritrea Railway

The capture of Massaua by British Imperial Forces on April 8 (announced just after we had closed for press last week) places the whole of the Eritrea Railway in our hands.

South American Air Lines

The recent action taken by the U.S.A. and some South American republics to prevent sabotage of ships by German and Italian crews has now involved German air lines operating in South America. In Peru the Lufthansa services have been suspended and the aircraft have been placed under the control of the Peruvian Government. Another line, the Scadta, which has its headquarters in Colombia and is German-controlled, was suspended because its machines had not been flying over the specified route. This company, the full title of which is the Sociedad Colombo-Alemana de Transportes Aercos, was formed as long ago as December, 1919, and has been working regular air lines since August, 1921, using German equipment.

It is reported that Lufthansa is operating its South American services with a number of air liners taken from countries which Germany has invaded, while the Junkers 52 aircraft formerly used have apparently gone into the service of the Luftwaffe. The Ju. 52 is the type which was used as a troop-carrier in the invasion of Norway and Holland.

On March 3 a German ship arrived at Rio de Janeiro, Brazil, with a cargo of civil aircraft for the Sindicato Condor Limitada, the German company which operates between Natal, Rio de Janeiro, Montevideo, Buenos Aires, and Lima. The shipment had been made from Bordeaux. Some months ago this company applied for permission to operate an air service for freight across the South Atlantic with German aircraft, but the Brazilian Government refused, as we recorded at page 154 of our February 7 issue.

It is reported in the German Press that L.A.T.I. (Linee Aeree Transcontinentale Italiane), which works the South Atlantic service between Rome and Rio de Janeiro, is to put new aircraft into service in the near future. The activities of this company were referred to at page 128 of our January 31 issue and page 259 of our March 7 issue.

A new national air line entitled Navegação Aérea Brasileira S.A. (N.A.B.) was established recently and is controlled entirely by Brazilians. It has been announced that the company intends to begin operations in the near future with Rio de Janeiro as its base.

Another new Brazilian company which began work recently is the Viação Aérea São Paulo S.A. (V.A.S.P.). It has opened a regular weekly air line between Rio de Janeiro and Porto Alegre, via São Paulo, Curitiba, Itajahy, and Florianópolis.

Questions in Parliament

Railwaymen and Cheese Rations

Mr. J. de Rothschild (Isle of Ely—Lib.) on April 2 asked the Parliamentary Secretary to the Ministry of Food, whether, in view of the great strain and arduous conditions under which engine drivers and firemen, especially of goods trains, were now working, carrying on for long spells, often through enemy air attack, he would consider including them among the special classes of workers to whom extra rations of cheese were to be granted.

Major G. Lloyd George (Parliamentary Secretary to the Ministry of Food) in a written reply stated that the Minister of Food had already received representations in favour of the grant of supplementary rations of cheese to railway engine drivers and firemen. These representations were being considered.

Traffic Beacons

Mr. A. M. Lyons (Leicester East—C.), on April 2, asked the Minister of Transport whether, in the light of present-day necessities, he considered the continuance of Belisha beacons necessary; and whether, in the national interests, he would take steps to abolish them, and use the material for war purposes.

Lt.-Colonel J. T. C. Moore-Brabazon, in a written reply, stated that in his opinion traffic beacons now served a definite and useful purpose, and he did not therefore think that they should be removed. The labour and expense involved in their removal and in the necessary repairs to the footways would be considerable, while the quantity of scrap material made available would be relatively small.

Road Accidents

Replying to Mr. David Adams (Consett—Lab.) who, on April 2, asked whether, with a view to reducing road accidents, the Minister of Transport had considered the desirability of requiring all pedestrians to use the traffic signs, Mr. F. Montague (Parliamentary Secretary to the Ministry of Transport) said that the suggestion had been carefully considered, but a serious objection to it was that at cross-roads provided with traffic light signals pedestrians were not fully protected from turning traffic when the green light was showing towards them. At certain signal installations "Cross Now" signals were in operation, but those were feasible only where an interval free from all crossing vehicles could be guaranteed.

Lt.-Colonel Moore-Brabazon (Minister of Transport), in a written reply, on April 3, to a question by Mr. L. Silkin (Peckham—Lab.) stated that the number of persons reported to have died in Great Britain during the month of December, 1940, as a result of road accidents was: During hours of darkness, 874, during other hours, 442; total 1,316. During January, 1941, the figures were 432, 309, and 741 respectively; and during February, 1941, they were 353, 336, and 689 respectively. The Minister said it would not be

practicable to restrict the use of private motor cars during the hours of darkness according to the purpose for which they were used, nor was he satisfied that such a course was in the public interest.

Express London Bus Services

The Minister of Transport was asked, on April 2, by Mr. J. Parker (Romford—Lab.) whether he was aware that great inconvenience had been caused to passengers by the withdrawal of express bus services, especially routes 59 and 159.

Lt.-Colonel Moore-Brabazon stated that express bus services were instituted to cover the period when darkness set in at an early hour. The position on each route had been examined and additions made, where necessary, to the ordinary service. On routes 59 and 159 six additional buses an hour were operated during peak periods between Streatham and Charing Cross.

Creosote Fuel

Mr. F. Montague (Parliamentary Secretary to the Ministry of Transport), on April 8, informed Mr. W. Thorne (Plaistow—Lab.) that a certain number of buses were run on creosote mixtures, and a revised scheme for rationing creosote and other home-produced heavy oils used as motor fuel was brought into operation on January 24 last. Creosote was in great demand for the war effort for purposes other than transport.

Stratford—Silvertown Buses

Mr. J. H. Hollins (Silvertown—Lab.), on April 8, asked the Minister of Transport whether he was aware that the bus service from Stratford to Silvertown now ceased at 8 p.m., causing hundreds of workers to have to walk one to four miles.

Lt.-Colonel J. T. C. Moore-Brabazon in a written reply stated that steps were being taken to reinstate it soon.

War Transport Council

Mr. W. Dobbie (Rotherham—Lab.), on April 9, asked the Minister of Transport if the War Transport Council, which he had recently set up in connection with the transport of this country, was intended to supersede existing committees, such as the Railway Executive Committee and the Transport Advisory Council; or whether he would state the relationship of this new committee to those other committees.

Lt.-Colonel Moore-Brabazon wrote in reply: As I explained in announcing the appointment of the War Transport Council, its function will be to advise me on questions of transport policy arising out of the needs and conditions of the war. It is not intended that it should supersede the Railway Executive Committee or the Transport Advisory Council, the first of which is, as its name implies, executive in function, while the second is a statutory body suited rather to the problems of peace than to those of war. I intend to associate the members of the War Transport Council with myself in reaching decisions of major transport policy; it has no executive authority.

Maintenance of Traffic Lines

Asked on April 9 by Mr. A. M. Lyons (Leicester East—C.) whether, in view of the need for labour in the agricultural war effort, he would consider the temporary cessation of work in re-whitening road lines in all but curves and specially dangerous places and the immediate transfer of such manpower to agricultural work, Lt.-Colonel J. T. C. Moore-Brabazon wrote in reply that he was not prepared to suspend work on maintenance of traffic lines, which he regarded as essential in the interest of road safety, especially in view of traffic conditions in the blackout.

Road Accidents

Mr. F. C. Watkins (Hackney Central—Lab.), on April 9, asked the Minister of Transport when the report would be published of the special investigation in selected areas of the causes of road accidents, as promised on January 23, 1940.

Lt.-Colonel Moore-Brabazon replied that he could not trace any promise to publish the reports made on this investigation, and publication was not contemplated. No extraordinary or unexpected factors were revealed. The wartime rise of accidents was clearly due to the difficulty which many people experienced in adjusting themselves successfully to prevailing conditions.

Demurrage Rates

Mr. C. T. Culverwell (Bristol West—C.), on April 9, asked the Minister of Transport what progress he had made in his discussions with the railway companies regarding demurrage rates; and when he expected to reach agreement.

Lt.-Colonel Moore-Brabazon wrote in reply: I am glad to say that, as a result of discussions which have taken place, the differences between the coal distributive trade and the railway companies, which mainly centred on the adjustments to be made to meet hard cases, have now been resolved. I am assured that I can now confidently expect full observance by the trade of the demurrage regulations and its whole-hearted co-operation in securing the quickest turn-round of wagons.

Parliamentary Notes

Railway Superannuation Fund Bills

The Great Western Railway (Superannuation Fund) Bill and the Southern Railway (Superannuation Fund) Bill as amended passed the Report stage in the House of Commons on April 7, and were read a third time and passed on April 10.

In the House of Lords on April 10 the Great Western Railway (Superannuation Fund) Bill and the Southern Railway (Superannuation Fund) Bill were read a first time and referred to examiners.

G.W.R. Directors' Qualification

The Great Western Railway Company (Variation of Directors' Qualifications) Bill was read a second time in the House of Lords on April 9.

Notes and News

Bow Road L.N.E.R. Station Closing.—The L.N.E.R. has announced that on and from Monday, April 21, Bow Road station will be closed for passenger traffic.

Institution of Mechanical Engineers Meeting.—A general meeting will be held at the Institution of Mechanical Engineers on Friday, April 25, at 2 p.m., when the subject of Mechanical Mishaps will be introduced by Mr. G. E. Windeler for informal discussion.

Rushes Used as a Locomotive Fuel.—A Reuters message from Astrachan says that at two depots of the Riazan-Ural Railway rushes are being used as locomotive fuel instead of wood. Great quantities of these rushes grow near Astrachan. All locomotives at these two depots are soon to go over to rush fuel with great economy for the railway. Over 60,000 bundles of rushes have already been collected.

Progress of Longest Submarine Tunnel.—A Reuter message dated April 1 from Tokyo announces that the pilot heading of the nearly-four-mile tunnel under the straits separating the main island from the island of Kynshu, has now been completed. This tunnel is for the new railway connecting Shimonoseki in Honshu with Moji on Kynshu, and is claimed to be the longest length of tunnel actually under the sea. When complete, the tunnel will form the final link in the important main line of rail communications throughout Japan.

Lines Blocked by Snow in the North.—The third severe snowstorm of the present winter began in the north of Scotland on Wednesday, March 26, and raged all day, so that by night the road, rail, and telephone communications were interrupted. A train which left Inverness for Wick on the Wednesday morning could proceed no further north than Helmsdale, and was sent back to Rogart, about 20 miles south, with over 100 persons on board, where it remained until Thursday afternoon. It then proceeded north again to Helmsdale,

and remained there until Saturday. Between Helmsdale and Forsinard drifts 20 ft. deep were tunnelled through to clear the line.

Moscow Passenger Traffic in 1940.—According to the provisional figures relating to passenger traffic in Moscow, 2,640,000 passengers were carried in 1940 by the tramways, the Metro underground railway, motor-buses, trolleybuses, and river cutters of the transport system. As compared with 1913, when the principal form of passenger transport was the tramway, the traffic in 1940 increased by more than an hundredfold. The Metro in 1940 carried 375,000,000 passengers, against 331,800,000 in 1939 and 212,600,000 in 1938.

Birmingham Railway Carriage & Wagon Co. Ltd.—Sir Bernard D. F. Docker, K.B.E., presiding at the recent annual meeting of the Birmingham Railway Carriage & Wagon Co. Ltd., said that the company disposed of the French subsidiary company in the early part of last year, and was fortunate in receiving payment shortly before the French collapse. Although the parent company had an exceptionally large output, and although the gross profit was practically the same as that for 1939, the incidence of taxation was such that the net result was only a little more than half that shown for 1939.

China Railway Pleases Rangoon Business Men.—A Reuters message from Rangoon, dated April 2, states that business men there are pleased at the sanctioning of the extension of the Burma Railways' Lashio branch to the Chinese frontier, as announced by Mr. Amery, Secretary of State for Burma. It is expected that the completion of the through railway will give a great fillip to Burma trade. Traffic at the port of Rangoon has already shown an increase of 25 per cent., a fact that is not considered a wartime phenomenon. Even after the return of normal conditions business with Yunnan is expected to be an important feature of the trade of Burma.

Forthcoming Meetings

April 24 (Thurs.).—**Milford Docks Company** (Annual general), Great Western Royal Hotel, Paddington, at noon.

April 24 (Thurs.).—**Grand Union Canal Company** (Annual ordinary general), Winchester House, Hall No. 174, Old Broad Street, E.C., at 11.30 a.m.

April 25 (Fri.).—**North Sunderland Railway Company** (Annual general), Royal Station Hotel, Newcastle-upon-Tyne, at noon.

British and Irish Railway Stocks and Shares

Stocks	Highest 1940	Lowest 1940	Prices	
			April 15, 1941	Rise/ Fall
G.W.R.				
Cons. Ord. ...	52	22½	32	—1
5% Cons. Pref. ...	103½	58	92½	—1
5% Red. Pref. (1950) ...	105½	88	102	—
4% Deb. ...	107½	90½	109½	—1
4½% Deb. ...	108½	96½	113	—
4½% Deb. ...	114½	96	115½	—
5% Deb. ...	124	106	130	—
2½% Deb. ...	66½	57	66	—
5% Rt. Charge ...	117½	97	127½	—
5% Cons. Guar. ...	117	90½	124½	—1
L.M.S.R.				
Ord. ...	24½	9	11½	—1
4% Pref. (1923) ...	60½	21½	36	—2½
4% Pref. ...	70½	35	53½	—2
5% Red. Pref. (1955) ...	94½	60	84½	—
4% Deb. ...	101½	81	102½	—
5% Red. Deb. (1952) ...	109½	102	108½	—½
4% Guar. ...	93½	65	92½	—1
L.N.E.R.				
5% Pref. Ord. ...	8½	1½	2½	—
Def. Ord. ...	4½	1½	4½	—
4% First Pref. ...	60	20	34½	—3
4% Second Pref. ...	22½	6½	12	—1
5% Red. Pref. (1955) ...	80	34½	60½	—
4% First Guar. ...	87½	36	82½	—2
4% Second Guar. ...	77½	37	67½	—2
3% Deb. ...	73½	54½	75	—
4% Deb. ...	97½	74	99½	—
5% Red. Deb. (1947) ...	107	96½	104	—
4½% Sinking Fund Red. Deb. ...	104	98	102½	—
SOUTHERN				
Pref. Ord. ...	79	34	47½	—1
Def. Ord. ...	22½	7	9½	—½
5% Pref. ...	104½	58½	88½	—2
5% Red. Pref. (1964) ...	105	85	100½	—
5% Guar. Pref. ...	116½	90	124	—
5% Red. Guar. Pref. (1957) ...	114½	94	113½	—
4% Deb. ...	106½	84½	107½	—2
5% Deb. ...	122½	100	128½	—
4% Red. Deb. (1962- 67) ...	106	96½	106	—
4% Red. Deb. (1970- 80) ...	106½	93	106	—
FORTH BRIDGE				
4% Deb. ...	95½	87	93½	—
4% Guar. ...	93½	81½	91½	—
L.P.T.B.				
4½% "A" ...	116	103	119½	+1
5% "A" ...	121½	107	124½	—
4½% "T.F.A." ...	105½	101	102½	—
5% "B" ...	116	102	113½	—
5% "C" ...	65½	24	31	—½
MERSEY				
Ord. ...	26	18½	21½	—
4% Perp. Deb. ...	92½	86½	92½	—
3% Perp. Deb. ...	68	63	67½	—
3% Perp. Pref. ...	57	50½	53½	—
IRELAND				
BELFAST & C.D.				
Ord. ...	4	3	4	—
G. NORTHERN				
Ord. ...	4½	1½	4½	—½
G. SOUTHERN				
Ord. ...	12½	4	7	—1
Pref. ...	15½	6	8	—2
Guar. ...	36	15	19½	—
Deb. ...	55½	40	51	—1

Irish Traffic Returns

IRELAND	Totals for 13th Week			Totals to Date		
	1941	1940	Inc. or Dec.	1941	1940	Inc. or Dec.
	£	£	£	£	£	£
Belfast & C.D. (80 miles)	pass. 2,708 goods 1,521 total 4,229	2,429 689 3,118	+ + +	35,929 14,773 50,702	31,169 6,571 37,740	+ + +
Great Northern (543 miles)	pass. 13,650 goods 19,850 total 33,500	11,500 12,750 24,250	+ + +	161,150 213,100 374,250	126,200 148,600 274,800	+ + +
Great Southern (2,049 miles)	pass. 35,853 goods 52,421 total 88,274	33,969 51,665 85,634	+ + +	437,908 561,453 1,095,590	383,756 657,682 945,209	+ + +
L.M.S.R. (N.C.C.) (247 miles)	pass. 6,690 goods 9,840 total 16,530	4,380 3,250 7,630	+ + +	88,260 86,770 175,030	53,970 42,690 96,660	+ + +

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Railway and Other Reports

Letterkenny Railway Company.—Net revenue for the half year to December 31, 1940, was £1,196, compared with £1,212 for the corresponding half year of 1939. Interest on first and second mortgages, £1,046 (same), carry forward, at £33,242, is £183 less.

North Devon & Cornwall Junction Light Railway Company.—Net revenue for the year 1940 was £6,614, the amount to which the company (whose line is worked by the Southern Railway Company) is entitled by the terms arising out of control. After payment of £6,500 interest on 5 per cent. debenture stock and £77 income tax, £857 is carried forward.

International Railways of Central America.—Railway operating revenues in 1940 were \$5,544,439, a decrease of \$449,617, more than half of which was in banana revenues, due to a tropical storm in June on the Pacific side, Guatemala. Railway operating expenses decreased \$249,863 due to fewer sleeper replacements and the increased use of locally produced sleepers at a lower original cost than imported creosoted sleepers. Net income after all charges, taxes, and reserves was \$865,704, against \$1,070,544 in 1939. Dividends totalling \$5.75 a share, or \$575,000 in all, were paid to preferred stockholders during 1940. Dividends in arrear on preferred stock amounted at December 31, 1940, to \$24.75 a share.

Grand Union Canal Carrying Company.—Interest is to be paid on the 6 per cent. mortgage debenture stock at the rate of 3 per cent. plus 1 per cent. additional for the period April 1 to November 30, 1940. This is the first payment under the emergency plan passed in December last.

West Riding Automobile Co. Ltd.—Profit for the year 1940 was £105,910 (against £127,006). The ordinary dividend is again 10 per cent., and £24,623 (against £19,151) is carried forward.

Trent Motor Traction Co. Ltd.—This subsidiary of Tilling & British Automobile Traction Limited, and the L.M.S.R. and L.N.E.R. companies jointly, reports net profits for the year 1940 of £89,327 (against £72,385), after providing £39,000 (£6,000) for taxation. General reserve again receives £20,000, and the final dividend is 6 per cent.

again making 10 per cent., leaving £27,229 (£11,939) to be carried forward.

Devon General Omnibus & Touring Co. Ltd.—This company is jointly controlled by the British Electric Traction Co. Ltd., through its subsidiary the National Electric Construction Co. Ltd. (50 per cent.), the Great Western Railway Company (30 per cent.), and the Southern Railway Company (20 per cent.). The profit for the year 1940, after providing for depreciation, was £67,220 against £64,930 for 1939. With the balance brought forward of £17,355 there is a total of £84,575 against £79,855, of which reserve receives £25,000 (same) and employees assistance account £3,000 (£2,000). The directors recommend a dividend of 10 per cent. (same) on the ordinary shares, plus a bonus of 5 per cent. (against 2½ per cent.), and that the balance, after meeting these payments, of £16,075 be carried forward.

Murex Limited.—Interim dividend 7½ per cent. (same).

British Oxygen Co. Ltd.—The report for 1940 shows that trading profits advanced from £883,961 to £1,364,944. Taxation was £550,812 higher, at £972,358, including £600,000 for E.P.T., and net profits were £72,919 lower, at £355,469. The dividend is 15 per cent., against 17 per cent., but it is payable on a larger capital. No allocation is made to reserve, to which £61,350 was allocated in the previous year. The amount carried forward is £34,207, against £40,258.

Contracts and Tenders

The South Indian Railway has placed the following orders with Linley & Company to the inspection of Messrs. Robert White & Partners:—

38 flat copper firebox plates
6 flanged copper firebox backplates

The seventh consecutive order for R.C. poppet valve gear for locomotives of the Federated Malay States Railways has been received by Associated Locomotive Equipment Limited. The gear on order is for six "C.2" tank locomotives of the 4-6-4 type now under construction at the works of the North British Locomotive Co. Ltd. where the poppet valve gear parts are also manufactured.

G.W.R. Train Interworking

(See editorial note on page 437)

The Minister of Transport, in his speech at the luncheon given by the National Defence Public Interest Committee on April 9, in which he envisaged the running of the Cornish Riviera to Scotland and the Coronation Scot to Plymouth presumably meant the interworking of the trains of one company over the territory of another. This is not so fantastic a proposition as might at first appear. On enquiry, the Great Western Railway Company supplied the following details:

As far back as 1864 Great Western carriages could have been seen at Dover and South Eastern coaches at Birkenhead—formed in a through train which began that year to run between Birkenhead and Dover.

Since 1888 through trains composed of Great Western and London Midland & Scottish (and its predecessors) stock alternately have run between Penzance, Plymouth, Torquay, Swansea, Cardiff, and Liverpool, Manchester, Carlisle, and Glasgow. These trains are running today except that as a wartime measure they terminate at or start from Liverpool and Manchester.

In addition to these, through services between the Great Western system and the other group companies were also run down to the outbreak of war (and some are still maintained) as under:—

Inaugural Date

G.W.R. and L.M.S.R. stock provided on alternate days—
1920 Paignton, Torquay, Exeter, Nottingham, Leeds, and Bradford (via Bristol and Midland route).
1921 Aberystwyth and Manchester (via Whitchurch) (Run prior to this date by the Cambrian and London & North Western Companies).

G.W.R. and Southern Railway stock on alternate days—
1910 Birkenhead, Manchester, Birmingham, and Portsmouth, Southampton, and Bournemouth (via Basingstoke).

1864 Birkenhead, Birmingham and Deal. Afterwards extended to and from Hastings, Brighton, Margate, and Ramsgate (via Reading).

1896 Cardiff, Bristol, Portsmouth, Bournemouth, and Brighton (via Salisbury).

G.W.R. and L.N.E.R. stock on alternate days—
1921 Penzance, Plymouth, Exeter, Swindon, Sheffield, York, Newcastle, Edinburgh, and Aberdeen (via Banbury).

1906 Swansea, Cardiff, Gloucester, Nottingham, Sheffield, and Newcastle (via Banbury).
Bournemouth, Southampton, Oxford, Nottingham, Sheffield, and Newcastle (via Banbury).

For a certain period the following through services were also run, but were subsequently withdrawn:—

Paddington and Brighton (via Kensington, Addison Road) (1906).

Cardiff, Newport, Gloucester, Leamington, and Yarmouth and Lowestoft (via Leamington L. & N.W.R. & G.E.R.) (1908).

Birmingham and Dover (S.E. & C.R.) (via Greenford and Kensington (Addison Road)) (1910).

Railway Stock Market

The stock and share markets have continued to be dominated by the war news, and business was on a negligible scale, with the result that security values were reactionary. Nevertheless, no heavy selling pressure developed, and although an attitude of caution prevailed, there was general willingness to take more than a short view. As was to be expected, home railway securities moved in accordance with the general market trend, but surprisingly little selling was reported of stocks of the prior charge class, despite the fact that there has been considerable buying in recent months, and in some instances current prices are well above those ruling at the beginning of the year. It is apparent that recent buying has been by investors who regard these prior charge stocks as investments of a permanent character. Indeed, if a holder were to sell it would be very difficult to obtain investments of equal status giving as favourable yields as those obtainable on home railway prior charges. The prevailing belief is that over a period good class stocks of the fixed interest-bearing type will probably move higher, bearing in mind that, in view of the changed conditions and uncertainties arising from the war, even the best type of ordinary or

equity share must be regarded as carrying speculative risk. There is a general tendency to await the outcome of the examination as to how far the Exchequer may help in preventing further increases in railway rates and fares. This may have an important bearing on the revision of the financial agreement between the railways and the Government, the delay in which is due partly to the necessity to await the formulation of the special war damage insurance plan for public utility undertakings. Although it is generally assumed that junior home railway stocks can be regarded as virtually assured of the dividends permitted on the basis of the guaranteed revenue, it will not be possible to assess their outlook satisfactorily until there is a decision as to the basis on which the financial agreement is to be revised. Nevertheless, home railway junior stocks would certainly appear to be moderately priced in comparison with the shares of many industrial companies now also playing an important part in the war effort.

Compared with a week ago, Great Western ordinary stock has moved back from 32½ to 31½, but the 5 per cent. preference stock at 92½ was unchanged on balance, although the 4 per cent.

debentures at 109½ were fractionally lower. Southern 5 per cent. preference was lower at 88½, and the 4 per cent. debentures 107½; the preferred ordinary reacted from 48½ to 47, and the deferred stock was 9½. L.M.S.R. 4 per cent. debentures at 102 have declined slightly on balance, and the guaranteed stock was a point below the price current a week ago. L.M.S.R. senior preference went back slightly to 54, and the 1923 preference from 38½ to 36½, while the ordinary stock was 11½. L.N.E.R. issues also lost a small part of their recent gains, the first guaranteed being 82½, and the second guaranteed 67. Moreover, L.N.E.R. first preference was 34, and the second preference 11½, although both classes of debentures were virtually unchanged on balance. London Transport "C" stock remained at 31½.

Despite the surrounding tendency on the Stock Exchange, various debentures of leading Argentine railways made slightly higher prices on expectations that traffics are likely to benefit considerably from Spanish purchases of Argentine grain, following the agreement of the British Government to make a further loan to Spain. Reports have also been current that the railways are renewing their request to the Argentine authorities for higher freight charges.

Traffic Table of Overseas and Foreign Railways Publishing Weekly Returns

Railways	Miles open 1940-41	Week Ending	Traffic for Week		No. of Weeks	Aggregate Traffics to Date			Shares or Stock	Prices				
			Total this year	Inc. or Dec. compared with 1940		Totals		Increase or Decrease		Highest 1940	Lowest 1940	April 15, 1941	Yield % (See Note)	
						This Year	Last Year							
South & Central America														
Antofagasta (Chili) & Bolivia	834	6.4.41	£ 19,970	+ £ 1,620	14	£ 240,350	£ 274,590	- £ 34,240	Ord. Stk.	11½	3½	4½	Nil	
Argentine North Eastern ...	753	5.4.41	ps. 129,400	+ ps. 3,400	40	ps. 5,841,400	ps. 6,054,600	- ps. 213,200	"	3½	1	2	Nil	
Bolivar ...	174	Mar. 1941	4,340	+ 30	13	11,020	11,590	- 570	6 p.c. Deb.	6½	5	6½	Nil	
Brazil ...	...	...	...	...	...	...	...	...	Bonds	8	5	5	Nil
Buenos Ayres & Pacific	2,801	5.4.41	ps. 1,938,000	+ ps. 276,000	40	ps. 55,967,000	ps. 55,613,000	+ ps. 354,000	Ord. Stk.	4½	1	2½	Nil	
Buenos Aires Central ...	190	18.1.41	870,400	+ 820,200	29	82,477,400	82,994,900	- 517,500	"	10½	3	4½	Nil	
Buenos Ayres Great Southern	5,082	5.4.41	ps. 2,789,000	+ ps. 317,000	40	ps. 88,046,000	ps. 95,785,000	- ps. 7,739,000	Ord. Stk.	88	2	3½	Nil	
Buenos Ayres Western ...	1,930	5.4.41	ps. 936,000	+ ps. 112,000	40	ps. 30,254,000	ps. 31,633,000	- ps. 1,379,000	"	83	2	3½	Nil	
Central Argentine ...	3,700	5.4.41	ps. 2,244,200	+ ps. 469,450	40	ps. 62,654,400	ps. 71,207,550	- ps. 8,553,150	"	4	1	1	Nil	
Do. ...	...	...	...	...	...	...	...	...	Dfd.	4	1	1	Nil
Cent. Uruguay of M. Video	972	5.4.41	28,441	+ 3,463	40	896,742	852,640	+ 44,102	Ord. Stk.	3½	14	1½	Nil	
Costa Rica ...	188	Dec. 1940	18,694	+ 783	26	90,913	107,851	- 16,938	Stk.	23½	97½	98	6½	
Dorada ...	70	Mar. 1941	12,500	+ 700	13	36,700	34,500	+ 2,200	1 Mt. Db.	99	97½	98	6½	
Entre Rios ...	810	5.4.41	ps. 194,700	- ps. 19,500	40	ps. 8,568,900	ps. 9,650,500	- ps. 1,081,600	Ord. Stk.	4	1	1½	Nil	
Great Western of Brazil ...	1,016	5.4.41	9,000	+ 1,100	14	154,400	180,100	- 25,700	Ord. Sh.	4/-	1/-	1½	Nil	
International of Cl. Amer. ...	794	Jan. 1941	\$499,099	- \$66,391	4	\$499,099	\$565,490	- \$66,391	"	9d.	9d.	1	Nil	
Interoceanic of Mexico	...	...	...	...	...	...	...	...	1st Pref.	6	4	4	Nil
La Guaira & Caracas ...	22½	Mar. 1941	5,520	+ 1,850	13	18,995	21,975	- 2,980	"	2½	1	1	Nil	
Leopoldina ...	1,918	5.4.41	25,563	+ 3,435	14	339,304	309,591	+ 29,713	Ord. Stk.	2/11½	1	1	Nil	
Mexican ...	483	14.2.41	ps. 305,000	- ps. 21,300	6	ps. 1,891,200	ps. 1,979,100	- ps. 87,900	"	2/11½	1	1	Nil	
Midland of Uruguay ...	319	Feb. 1941	11,927	+ 913	35	94,189	81,224	+ 12,965	"	2½	1	1	Nil	
Nitrate ...	386	31.3.41	6,233	+ 1,891	13	26,732	50,335	- 23,603	Ord. Sh.	41	1½	2½	6	
Paraguay Central ...	274	5.4.41	\$3,641,000	+ \$950,000	40	\$130,204,000	\$127,889,000	+ \$2,315,000	Pr. Li. Stk.	24	36	30½	19½	
Peruvian Corporation ...	1,059	Mar. 1941	61,029	+ 13,709	39	577,986	606,651	- 28,665	Pref.	4	1	2	Nil	
Salvador ...	100	12.4.41	\$31,193	+ \$6,182	31	\$405,562	\$500,217	- \$94,655	"	50	23	32	7½	
San Paulo ...	153½	30.3.41	36,875	- 792	13	445,375	448,451	- 3,076	Ord. Stk.	15/11½	1	1	Nil	
Taltal ...	160	Mar. 1941	2,630	+ 375	39	25,140	23,135	+ 2,005	Ord. Sh.	15/11½	1	1	Nil	
United of Havana ...	1,346	5.4.41	46,414	+ 262	43	890,354	938,839	- 48,485	Ord. Stk.	1	1	1	Nil	
Uruguay Northern ...	73	Feb. 1941	891	+ 315	35	9,133	8,590	+ 543	"	1	1	1	Nil	
Canada														
Canadian National ...	23,637	7.4.41	1,118,810	+ 343,309	14	14,058,503	11,450,324	+ 2,608,179	"	86	68	89	41	
Canadian Northern ...	...	...	...	...	...	...	...	...	Perp. Dbs.	105½	95½	101½	3½
Grand Trunk ...	...	...	...	...	...	...	...	...	4 p.c. Gar.	9½	4½	7½	Nil
Canadian Pacific ...	17,153	7.4.41	719,000	+ 167,000	14	9,801,400	7,679,600	+ 2,121,800	Ord. Stk.	99½	71	100	3	
India														
Assam Bengal ...	1,329	30.4.40	45,187	+ 6,529	4	135,060	120,437	+ 14,623	Ord. Stk.	283	234	297	5½	
Barsi Light ...	202	10.2.41	6,457	+ 4,162	47	140,767	108,885	+ 31,882	"	96	83½	99½	4	
Bengal & North Western ...	2,086	28.2.41	271,125	+ 2,964	22	1,281,323	1,196,608	+ 84,715	Ord. Stk.	108	99	107½	5½	
Bengal Doonars & Extension	161	Sept. 1940	14,625	+ 508	26	78,405	66,243	+ 12,162	"	104	97½	103½	7½	
Bengal-Nagpur ...	3,269	31.1.41	302,400	+ 29,410	45	7,375,262	6,648,145	+ 727,117	"	284	238	290	5½	
Bombay, Baroda & Cl. India	2,986	31.3.41	381,225	+ 95,900	52	10,430,925	9,187,125	+ 1,243,800	"	93½	83	98½	4½	
Madras & Southern Mahratta	2,939	10.2.41	177,450	+ 3,713	47	5,268,599	4,967,838	+ 300,761	"	...	...	...	...
Rohilkund & Kumaon ...	571	28.2.41	57,600	+ 1,989	22	269,465	252,386	+ 17,079	"	...	...	...	...
South Indian ...	2,500	31.1.41	140,910	+ 25,451	45	3,802,240	3,395,438	+ 406,802	"	...	...	...	...
Various														
Beira ...	204	Jan. 1941	76,256	-	17	284,761	-	-	Prf. Sh.	7/10½	1	1	Nil	
Egyptian Delta ...	623	20.1.41	8,521	+ 2,924	43	194,988	175,567	+ 19,421	"	53	44½	46½	7½	
Kenya & Uganda ...	1,625	...	...	...	...	...	...	...	B. Deb.	88	80	87½	6½
Manila ...	...	...	...	...	...	...	...	...	Inc. Deb.	...	...	...	...
Midland of W. Australia	277	Dec. 1940	12,239	- 1,195	26	91,124	76,928	+ 14,196	"	...	...	...	...
Nigerian ...	1,900	25.1.41	55,111	- 18,846	43	1,788,795	1,602,531	+ 186,264	"	...	...	...	...
Rhodesia ...	2,442	Jan. 1941	491,762	-	17	1,928,021	-	-	"	...	...	...	...
South Africa ...	13,287	15.2.41	703,148	+ 78,409	46	31,980,317	29,770,734	+ 2,209,583	"	...	...	...	...
Victoria ...	4,774	Aug. 1940	888,289	+ 190,022	9	1,756,717	1,383,157	+ 373,560	"	...	...	...	...

Note. Yields are based on the approximate current prices and are within a fraction of ½
 † Receipts are calculated @ 1s. 6d. to the rupee

Argentine traffics are given in pesos